

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
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SUBJECT: Risk-Based Concentration Table

DATE: 10/27/1999

FROM: Jennifer Hubbard, Toxicologist
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TO: RBC Table Users

Attached is the EPA Region III Risk-Based Concentration (RBC) Table, which we prepare and post periodically for all interested parties.

IMPORTANT NOTES: To make the RBC Table more accessible and to minimize paper usage, it is now primarily available through the Internet. The address is <http://www.epa.gov/reg3hwmd/risk/riskmenu.htm>. The Table is available in both Lotus and Excel as "self-extracting" files. These files should be downloaded and then processed with your computer's "run" function. The files can then be viewed in Lotus or Excel. If you have technical questions about the toxicological or risk assessment aspects of the RBCs, please contact Jennifer Hubbard at 215-814-3328 or hubbard.jennifer@epamail.epa.gov. Other questions can be addressed to Vanessa Sizer or Terri Fields at 215-814-3041. You can also consult the Frequently Asked Questions, below.

CONTENTS, USES, AND LIMITATIONS OF THE RBC TABLE

The RBC Table contains Reference Doses (RfDs) and Cancer Slope Factors (CSFs) for 400-500 chemicals. These toxicity factors have been combined with "standard" exposure scenarios to calculate RBCs--chemical concentrations corresponding to fixed levels of risk (i.e., a Hazard Quotient (HQ) of 1, or lifetime cancer risk of 1E-6, whichever occurs at a lower concentration) in water, air, fish tissue, and soil.

The Region III toxicologists use RBCs to screen sites not yet on the NPL, respond rapidly to citizen inquiries, and spot-check formal baseline risk assessments. The primary use of RBCs is for chemical screening during baseline risk assessment (see EPA Regional Guidance EPA/903/R-93-001, "Selecting Exposure Routes and Contaminants of Concern by Risk-Based Screening"). The exposure equations come from EPA's Risk Assessment Guidance for Superfund (RAGS), while the exposure factors are those recommended in RAGS or supplemental guidance from the Superfund program. The attached technical background document provides specific equations and assumptions. Simply put, RBCs are like risk assessments run in reverse. For a single contaminant in a single medium, under standard default

exposure assumptions, the RBC corresponds to the target risk or hazard quotient.

RBCs also have several important limitations. Specifically excluded from consideration are (1) transfers from soil to air, 2) cumulative risk from multiple contaminants or media, and (3) dermal risk. Additionally, the risks for inhalation of vapors from water are based on a very simple model, whereas detailed risk assessments may use more detailed showering models. Also, the toxicity information in the Table has been assembled by hand and (despite extensive checking and years of use) may contain errors. It's advisable to cross-check before relying on any RfDs or CSFs in the Table. If you note any errors, please let us know.

It is important to note that this Table uses inhalation RfDs and CSFs rather than RfCs (Reference Concentrations) and inhalation unit cancer risks. This is because the latter factors incorporate exposure assumptions and therefore can only be used for one exposure scenario. Because risk assessors need to evaluate risks for many types of scenarios, the factors have been converted to the more traditional RfDs and CSFs. Unless otherwise indicated in the toxicity-factor source, the assumption is that RfCs and unit risks should be adjusted by a 70-kilogram body weight and a 20 m³/day inhalation rate to generate the RfDs and CSFs.

Many users want to know if the RBCs can be used as valid no-action levels or cleanup levels, especially for soils. The answer is a bit complex. First, it is important to realize that the RBC Table does not constitute regulation or guidance, and should not be viewed as a substitute for a site-specific risk assessment. For sites where:

1. A single medium is contaminated;
2. A single contaminant contributes nearly all the health risk;
3. Volatilization, dermal contact, and other pathways not included in the RBCs are not expected to be significant;
4. The exposure scenarios and assumptions used in the RBC table are appropriate for the site;
5. The fixed risk levels used in the RBC table are appropriate for the site; and
6. Risk to ecological receptors is not expected to be significant;

the RBCs would probably be protective as no-action levels or cleanup goals. However, to the extent that a site deviates from this description, as most do, the RBCs would not necessarily be appropriate.

To summarize, the Table should generally not be used to set cleanup or no-action levels at CERCLA sites or RCRA Corrective Action sites, to substitute for EPA guidance for preparing baseline risk assessments, or to determine if a waste is hazardous under RCRA.

SPECIAL NOTES

The RBC Table was originally developed by Roy L. Smith, Ph.D., for use by risk assessors in the Region III Superfund program. Dr. Smith is no longer with Region III, and the Table continues to evolve. You may notice some modifications of formatting and conventions used in the Table.

For instance, besides formatting, the following changes are noteworthy:

- As usual, updated toxicity factors have been used wherever available. However, because IRIS and provisional values are updated more frequently than the RBC Table, RBC Table users are ultimately responsible for obtaining the most up-to-date values. The RBC Table is provided as a convenience, but toxicity factors are compiled from the original sources and it is those original sources that should serve as the definitive reference.
- Certain outdated and withdrawn numbers have been removed from the Table.
- Changes to the table have been marked with asterisks (**). Changes may involve a corrected CAS number or a correction in the VOC status, or they may reflect changes of RfDs and CSFs on IRIS.
- RBCs are no longer rounded to 1E6 ppm. For certain low-toxicity chemicals, the RBCs exceed possible concentrations at the target risks. In such cases, Dr. Smith rounded these numbers to the highest possible concentration, or 1E6 ppm. The rounding has been discontinued so that Table users can adjust the RBCs to a different target risk whenever necessary. For example, when screening chemicals at a target HQ of 0.1, noncarcinogenic RBCs may simply be divided by 10. Such scaling is not possible when RBCs are rounded.
- This Table was originally compiled to assist Superfund risk assessors in screening hazardous waste sites. The large number of chemicals made the Table unwieldy and difficult to keep current. Many of the chemicals did not typically (or even occasionally) appear at Superfund sites. Starting with the April 1998 version of the Table, the 600+ chemicals were reduced to some 400-500 chemicals by eliminating many of those atypical chemicals. Through time, the Table may continue to grow or decrease in size. Comments on this issue are appreciated. During the last eighteen months, only one request was received for restoration of a chemical: NuStar has been restored to the Table. (A list of the deleted chemicals is attached.)
- At Region III Superfund sites, noncancer RBCs are typically adjusted downward to correspond to a target HQ of 0.1 rather than 1. (This is done to ensure that chemicals with additive effects are not prematurely eliminated during screening.) However, some chemicals have RBCs at HQs of 0.1 that are lower than their RBCs at 1E-6 cancer risk. In other words, the screening RBC would change from carcinogenic to noncarcinogenic.

A new feature of this Table is that these chemicals are now flagged with a “!” symbol. Therefore, assessors screening with adjusted RBCs will be alerted to this situation.

- Earlier versions of this Table included a substitution of inhalation toxicity factors for oral factors whenever oral factors were unavailable (this applied only to groundwater and air, but not soil or fish). This practice has been discontinued in order to minimize the uncertainty associated with such a conversion. The discontinuation of this practice does not significantly decrease the number of available RBCs.
- The criterion for “VOC status” is in accordance with RAGS Part B: chemicals with Henry’s Law constants greater than 1E-5 and molecular weight less than 200 are now marked as VOCs. This increases consistency with the national guidance and with other EPA regions that use risk-based screening numbers.
- Earlier versions of this Table included soil screening levels (SSLs), when those values were available in draft form. Since the finalization of the SSL Guidance, risk assessors are urged to consult the final SSL Guidance directly. However, for generic use in Region III, the table now contains soil-to-groundwater SSLs in accordance with the new guidance. For more information, see the Region III memo on SSLs, or consult the national SSL guidance directly (Soil Screening Guidance: User’s Guide, April 1996, Publication 9355.4-23; and Soil Screening Guidance: Technical Background Document, May 1996, EPA/540/R-95/128).

FREQUENTLY ASKED QUESTIONS

To help you better understand the RBC Table, here are answers to our most often-asked questions:

1. How can the age-adjusted inhalation factor (11.66) be less than the inhalation rate for either a child (12) or an adult (20)?

Age-adjusted factors are not intake rates, but rather partial calculations which have different units from intake rates. (Therefore, they are not directly comparable.) The fact that these partial calculations have values similar to intake rates is really coincidental, an artifact of the similar magnitude of years of exposure and time-averaged body weight.

2. For manganese, IRIS shows an oral RfD of 0.14 mg/kg/day, but the RBC Table uses 2E-2 mg/kg/day. Why?

The IRIS RfD includes manganese from all sources, including diet. The explanatory text in IRIS recommends using a modifying factor of 3 when calculating risks associated with non-food sources, and the Table follows this recommendation. IRIS also recommends subtracting dietary exposure (default assumption in this case 5 mg). Thus, the IRIS RfD has been lowered by a factor of 2 x 3, or 6. The Table now reflects manganese RBCs for

both "food" and "non-food" (most environmental) sources.

3. What is the source of the child's inhalation rate of 12 m³/day?

The calculation comes from basic physiology. It's a scaling of the mass-specific 20 m³/day rate for adults from a body mass of 70 kg to 15 kg, using the 2/3 power of mass, as follows:

$$Ircm = \text{mass-specific child inhalation rate (m}^3/\text{kg/day)}$$

$$Irc = \text{child inhalation rate (m}^3/\text{day)}$$

$$20 \text{ m}^3/\text{day} / 70 \text{ kg} = 0.286 \text{ m}^3/\text{kg/day (mass-specific adult inhalation rate)}$$

$$0.286 \text{ m}^3/\text{kg/day} \times (70^{0.67}) = (Ircm) \times (15^{0.67})$$

$$Ircm = 0.803 \text{ m}^3/\text{kg/day}$$

$$Irc = Ircm \times 15 \text{ kg} = 0.803 \text{ m}^3/\text{kg/day} \times 15 \text{ kg} = 12.04 \text{ m}^3/\text{day}$$

4. Can the oral RfDs in the RBC Table be applied to dermal exposure?

Not directly. Oral RfDs are usually based on administered dose and therefore tacitly include a GI absorption factor. Thus, any use of oral RfDs in dermal risk calculations should involve removing this absorption factor. Consult the Risk Assessment Guidance for Superfund, Part A, Appendix A, for further details on how to do this.

5. The exposure variables table in the RBC background document lists the averaging time for non-carcinogens as "ED*365." What does that mean?

ED is exposure duration, in years, and * is the computer-ese symbol for multiplication. Multiplying ED by 365 simply converts the duration to days. In fact, the ED term is included in both the numerator and denominator of the RBC algorithms for non-cancer risk, canceling it altogether. See RAGS for more information.

6. Why is inorganic lead not included in the RBC Table?

EPA has no consensus RfD or CSF for inorganic lead, so it is not possible to calculate RBCs as we have done for other chemicals. EPA considers lead to be a special case because of the difficulty in identifying the classic "threshold" needed to develop an RfD.

EPA therefore evaluates lead exposure by using blood-lead modeling, such as the Integrated Exposure-Uptake Biokinetic Model (IEUBK). The EPA Office of Solid Waste has also released a detailed directive on risk assessment and cleanup of residential

soil lead. The directive recommends that soil lead levels less than 400 mg/kg are generally safe for residential use. Above that level, the document suggests collecting data and modeling blood-lead levels with the IEUBK model. For the purposes of screening, therefore, 400 mg/kg is recommended for residential soils. For water, we suggest 15 ug/l (the EPA Action Level in water), and for air, the National Ambient Air Quality Standard.

7. Where did the CSFs for carcinogenic PAHs come from?

The PAH CSFs are all calculated relative to benzo[a]pyrene, which has an IRIS slope factor. The relative factors for the other PAHs can be found in "Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons," Final Draft, ECAO-CIN-842 (March, 1993).

8. May I please have a copy of a previous RBC Table?

We do not distribute outdated copies of the RBC Table. Each new version of the Table supersedes all previous versions.

9. Please elaborate on the meaning of the "W" source code in the Table.

The "W" code means that a RfD or CSF is currently not present on either IRIS or HEAST, but that it was once present on either IRIS or HEAST and was removed. Such withdrawal usually indicates that consensus on the number no longer exists among EPA scientists, but not that EPA believes the contaminant to be unimportant.

Withdrawn numbers are shown in the Table because we still need to deal with these contaminants during the long delays before replacement numbers are ready. For the purpose of screening, a "W" value is similar to a provisional value in that neither value has achieved Agency consensus. The "W" code should serve as a clear warning that before making any serious decision involving that contaminant, you will need to develop an interim value based on current scientific understanding.

If you are assessing risks at a site where a major contaminant is coded "W," consider working with your Region EPA risk assessor to develop a current toxicity constant. If the site is being studied under CERCLA, the EPA-NCEA Regional Technical Support group may be able to assist.

10. Can I get copies of supporting documents for interim toxicity constants which are coded "E" in the RBC Table?

Unfortunately, Region 3 does not have a complete set of supporting documents. The EPA-NCEA Superfund Technical Support Center prepares these interim toxicity constants in response to site-specific requests from Regional risk assessors, and sends the

documentation only to the requestor. The RBC Tables contain only the latest interim values that we've either requested or have otherwise received. NCEA maintains the master data base of these chemicals, but will not release documentation of provisional values unless they are recent. Furthermore, since NCEA's Superfund Technical Support Center is mainly for the support of Superfund, it usually cannot develop new criteria unless authorized to do so for a specific Superfund project.

If an "E"-coded contaminant is a chemical of potential concern at your site, we urge you to work with the EPA Regional risk assessor assigned to the project in order to develop or obtain documentation for provisional values. EPA Region 3 furnishes documents only when needed to support Regional risk assessments or recommendations.

11. Why is there no oral RfD for mercury? How should I handle mercury?

IRIS gives oral RfDs for mercuric chloride and for methylmercury, but not for elemental mercury. Therefore, the RBC Table reflects this primary source. Consult your toxicologist to determine which of the available mercury numbers is suitable for the conditions at your site (e.g., whether mercury is likely to be organic or inorganic.)

Attachment

"DISCONTINUED" CHEMICALS

These chemicals may still have toxicity criteria available in IRIS, HEAST, or NCEA provisional values. However, they are not routine chemicals and therefore will not be routinely maintained in the RBC Table, unless our Table users report a significant need for chemicals to be re-added. Some of the chemicals on this Table were deleted because supporting toxicity information has been withdrawn or is unavailable.

| | |
|--|------------------------------|
| acephate | acetone cyanohydrin |
| acifluorfen | acrylic acid |
| ally | allyl alcohol |
| aluminum phosphide | amdro |
| ametryn | m-aminophenol |
| amitraz | ammonium sulfamate |
| antimony potassium tartrate | apollo |
| aramite | asulam |
| avermectin B1 | barium cyanide |
| bayleton | benefin |
| benomyl | benzotrichloride |
| bidrin | biphenthin |
| bis(2-chloro-1-methylethyl)ether | boron trifluoride |
| bisphenol A | bromoxynil |
| 4-bromophenyl phenyl ether | butylphthalyl butylglycolate |
| bromoxynil octanoate | captafol |
| cacodylic acid | carboxin |
| captan | chlorimuron-ethyl |
| chloramben | 2-chloroacetophenone |
| chloroacetaldehyde | 2-chloroethyl vinyl ether |
| 4-chlorobenzotrifluoride | chlorpropham |
| 4-chloro-2-methylaniline hydrochloride | chlorthiophos |
| chlorothalonil | cyromazine |
| chlorsulfuron | decabromodiphenyl ether |
| coal tar creosote | diallate |
| cyclohexlamine | diflubenzuron |
| danitol | dimethoate |
| demeton | dimethyl terephthalate |
| diethylformamide | direct black 38 |
| dimethipin | direct brown 95 |
| N,N-dimethylformamide | 1,2-epoxybutane |
| diphenamid | 2-ethoxyethanol acetate |
| direct blue 6 | EPTC |
| dodine | |
| ethephon | |
| ethyl acrylate | |

| | |
|--|--------------------------|
| ethylene cyanohydrin | |
| ethyl p-nitrophenyl phenylphosphorothioate | |
| ethylphthalyl ethyl glycolate | express |
| fluoridone | flurprimidol |
| flutolanil | flualinate |
| folpet | fostetyl-al |
| furium | furmecyclox |
| glufosinate-ammonium | haloxyfop-methyl |
| harmony | imazalil |
| imazaquin | iprodione |
| isoxaben | kepone |
| lactofen | linuron |
| londax | |
| maleic hydrazide | malononitrile |
| mancozeb | maneb |
| merphos | merphos oxide |
| metalaxyl | methamidophos |
| methomyl | 2-methoxyethanol acetate |
| 2-methoxyethanol | 2-methoxy-5-nitroaniline |
| 2-methylaniline hydrochloride | methyl chlorocarbonate |
| 4,4-methylene bisbenzeneamine | metribuzin |
| molinate | 2-naphthylamine |
| napropamide | |
| nickel subsulfide | nitrapyrin |
| 3-nitroaniline | 4-nitroaniline |
| nitroguanidine | norflurazon |
| octabromodiphenyl ether | |
| octamethylpyrophosphoramide | paclobutrazol |
| pebulate | pendimethalin |
| pentabromo-6-chlorocyclohexane | |
| pentabromodiphenyl ether | phenmedipham |
| phenylmercuric acetate | phorate |
| phosmet | picloram |
| pirimiphos-methyl | prochloraz |
| profluralin | pronamide |
| propargyl alcohol | propazine |
| propham | propiconazole |
| propylene oxide | pydrin |
| quinalphos | savey |
| selenourea | sethoxydim |
| sodium fluoroacetate | sodium metavanadate |
| systhane | tebuthiuron |
| temephos | terbacil |
| terbufos | terbutryn |

| | |
|---------------------------------------|-------------------------------|
| tetrachlorovinphos | tetraethyldithiopyrophosphate |
| thallium selenide | |
| 2-(thiocyanomethylthio)-benzothiazole | |
| thiofanox | thiophanate-methyl |
| thiram | tralomethrin |
| trallate | triasulfuron |
| 2,4,6-trichloroaniline hydrochloride | |
| tridiphane | triethylamine |
| trifluralin | vernam |

(2)

EPA REGION III RISK-BASED CONCENTRATION TABLE:

TECHNICAL BACKGROUND INFORMATION

originally developed by Roy L. Smith, Ph.D., Toxicologist

revised 4/12/99 by Jennifer Hubbard, Toxicologist

Development of Risk-Based Concentrations

General

Separate carcinogenic and non-carcinogenic risk-based concentrations were calculated for each compound for each pathway. The concentration in the table is the lower of the two, rounded to two significant figures. The following terms and values were used in the calculations:

| Exposure variables | Value | Symbol |
|---|--------|------------------|
| <i>General:</i> | | |
| Carcinogenic potency slope oral (risk per mg/kg/d): | * CPSo | |
| Carcinogenic potency slope inhaled (risk per mg/kg/d): | * CPSi | |
| Reference dose oral (mg/kg/d): | * RfDo | |
| Reference dose inhaled (mg/kg/d): | * RfDi | |
| Target cancer risk: | 1e-06 | TR |
| Target hazard quotient: | 1 | THQ |
| Body weight, adult (kg): | 70 | BWa |
| Body weight, age 1-6 (kg): | 15 | BWc |
| Averaging time carcinogens (d): | 25550 | ATc |
| Averaging time non-carcinogens (d): | ED*365 | ATn |
| Inhalation, adult (m ³ /d): | 20 | IRAA |
| Inhalation, child (m ³ /d): | 12 | IRAc |
| Inhalation factor, age-adjusted (m ³ -y/kg-d): | 11.66 | IFAdj |
| Tap water ingestion, adult (L/d): | 2 | IRWa |
| Tap water ingestion, age 1-6 (L/d): | 1 | IRWc |
| Tap water ingestion factor, age-adjusted (L-y/kg-d): | 1.09 | IFWadj |
| Fish ingestion (g/d): | 54 | IRF |
| Soil ingestion, adult (mg/d): | 100 | IRSa |
| Soil ingestion, age 1-6 (mg/d): | 200 | IRS _c |
| Soil ingestion factor, age adjusted (mg-y/kg-d): | 114.29 | IFSadj |
| <i>Residential:</i> | | |
| Exposure frequency (d/y): | 350 | EFr |

| Exposure variables | Value | Symbol |
|---|-------|--------|
| Exposure duration, total (y): | 30 | EDtot |
| Exposure duration, age 1-6 (y): | 6 | EDc |
| Volatileization factor (L/m ³): | 0.5 | K |
| <i>Occupational:</i> | | |
| Exposure frequency (d/y): | 250 | EFo |
| Exposure duration (y): | 25 | EDo |
| Fraction of contaminated soil ingested (unitless) | 0.5 | FC |

*: Contaminant-specific toxicological constants. The priority among sources of toxicological constants was as follows: (1) IRIS, (2) HEAST, (3) HEAST alternative method, (4) EPA-NCEA Superfund Health Risk Technical Support Center, (5) withdrawn from IRIS or HEAST, and (6) other EPA documents. Each source was used only if numbers from higher-priority sources were unavailable, unless NCEA indicated a newer provisional value was superior to an older HEAST value. The EPA Superfund Health Risk Technical Support Center, part of the EPA National Center for Environmental Assessment in Cincinnati, develops provisional RfDs and CPSSs on request for contaminants not in IRIS or HEAST. These provisional values are labeled "E = EPA-NCEA provisional" in the table. It is possible they may be obsolete. If one of the "E" constants is important to a Superfund risk assessment, consider requesting, through a Regional risk assessor, a new provisional value.

Age-adjusted factors

Because contact rates with tap water, ambient air, and residential soil are different for children and adults, carcinogenic risks during the first 30 years of life were calculated using age-adjusted factors. These factors approximated the integrated exposure from birth until age 30 by combining contact rates, body weights, and exposure durations for two age groups - small children and adults. The age-adjusted factor for soil was obtained from RAGS IB; the others were developed by analogy.

(1) Air inhalation

$$IFA_{adj} \frac{m^3 \cdot y}{kg \cdot d} = \frac{EDC \cdot IRAC}{BWC} + \frac{(EDtot - EDC) \cdot IRAa}{BWa}$$

(2) Tap water ingestion

$$IFW_{adj} \frac{L \cdot y}{kg \cdot d} = \frac{EDC \cdot IRWC}{BWC} + \frac{(EDtot - EDC) \cdot IRWa}{BWa}$$

(3) Soil ingestion

$$IFS_{adj} \frac{mg \cdot y}{kg \cdot d} = \frac{EDC \cdot IRS_c}{BWC} + \frac{(EDtot - EDC) \cdot IRS_a}{BWa}$$

Residential water

Volatilization terms were calculated only for compounds with a mark in the "VOC" column. Compounds having a Henry's Law constant greater than 10^{-5} and a molecular weight less than 200 were considered volatile. The list may be incomplete, but is unlikely to include false positives. The equations and the volatilization factor (K, above) were obtained from RAGS IB. Oral potency slopes and reference doses were used for both oral and inhaled exposures for volatile compounds lacking inhalation values. RBCs for carcinogens were based on combined childhood and adult exposure; for non-carcinogens RBCs were based on adult exposure.

(4) Carcinogens

$$RBC \frac{\mu g}{L} = \frac{TR \cdot ATc \cdot 1000 \frac{\mu g}{mg}}{EFr \cdot ([K \cdot IFAadj \cdot CPSi] + [IFWadj \cdot CPSo])}$$

(5) Non-carcinogens

$$RBC \frac{\mu g}{L} = \frac{THQ \cdot BWa \cdot ATn \cdot 1000 \frac{\mu g}{mg}}{EFr \cdot EDtot \cdot \left(\frac{K \cdot IRAa}{RFDi} + \frac{IRWa}{RFDo} \right)}$$

Ambient air

Oral potency slopes and references were used where inhalation values were not available. RBCs for carcinogens were based on combined childhood and adult exposure; for non-carcinogens RBCs were based on adult exposure.

(6) Carcinogens

$$RBC \frac{\mu g}{m^3} = \frac{TR \cdot ATc \cdot 1000 \frac{\mu g}{mg}}{EFr \cdot IFAadj \cdot CPSi}$$

(7) Non-carcinogens

$$RBC \frac{\mu g}{m^3} = \frac{THQ \cdot RFDi \cdot BWa \cdot ATn \cdot 1000 \frac{\mu g}{mg}}{EFr \cdot EDtot \cdot IRAa}$$

Edible fish

All RBCs were based on adult exposure.

(8) Carcinogens

$$RBC \frac{mg}{kg} = \frac{TR \cdot BWa \cdot ATc}{EFr \cdot EDtot \cdot \frac{IRF}{1000 \frac{g}{kg}} \cdot CPSo}$$

(9) Non-carcinogens

$$RBC \frac{mg}{kg} = \frac{THQ \cdot RfDo \cdot BWa \cdot ATn}{EFr \cdot EDtot \cdot \frac{IRF}{1000 \frac{g}{kg}}}$$

Commercial/industrial soil ingestion

RBCs were based on adult occupational exposure, including an assumption that only 50% of total soil ingestion is work-related.

(10) Carcinogens

$$RBC \frac{mg}{kg} = \frac{TR \cdot BWa \cdot ATc}{EFO \cdot EDO \cdot \frac{IRSa}{10^6 \frac{mg}{kg}} \cdot FC \cdot CPSo}$$

(11) Non-carcinogens

$$RBC \frac{mg}{kg} = \frac{THQ \cdot RfDo \cdot BWa \cdot ATn}{EFO \cdot EDO \cdot \frac{IRSa}{10^6 \frac{mg}{kg}} \cdot FC}$$

Residential soil ingestion

RBCs for carcinogens were based on combined childhood and adult exposure; RBCs for non-carcinogens were based on childhood exposure only.

(12) Carcinogens

$$RBC \frac{mg}{kg} = \frac{TR \cdot ATc}{EFr \cdot \frac{IFSadj}{10^6 \frac{mg}{kg}} \cdot CPSo}$$

(13) Non-carcinogens

$$RBC \frac{mg}{kg} = \frac{THQ \cdot RFDo \cdot BWC \cdot ATn}{EFr \cdot EDC \cdot \frac{IRSc}{10^6 \frac{mg}{kg}}}$$

| Source: I = IRIS; H = HEAST; A = HEAST Alternate; W = Withdrawn from IRIS or HEAST E = EPA-NCEA provisional value; O = other | | | | | | | Basic C = Carcinogenic effects; N = Noncarcinogenic effects; I = RBC at HI of 0.1 < RBC < 1000 | | | | | Region III SSIs Soil, for groundwater migration | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-----|--|-------------------------------------|---------------|-----------------------------|----------------------|--|-----------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFI 1/mg/kg/d | VOC | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg |
| ACETALDEHYDE | 75070 | | 2.57E-003 I | 7.7E-003 I | y | | 1.8E+000 C | 8.1E-001 C | | | | 3.8E-004 | 7.7E-003 C |
| ACETOCHLOR | 34256621 | 2E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.8E+003 N | | |
| ACETONE | 67841 | 1.00E-001 I | | | y | | 8.1E+002 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 1.2E-001 | 2.5E+000 N |
| ACETONITRILE | 75058 | | 1.7E-002 I | | y | | 1.2E+002 N | 6.2E+001 N | | | | 2.9E-002 | 5.8E-001 N |
| ACETOPHENONE | 98862 | 1.00E-001 I | | 5.70E-006 W | y | | 4.2E+002 N | 2.1E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 1.1E-005 | 2.2E-004 N |
| ACROLEIN | 107028 | 2.00E-002 H | | 5.70E-006 I | y | | 4.2E+002 N | 2.1E+002 N | 2.7E+001 N | 4.1E+004 N | 1.8E+003 N | 1.0E-005 | 2.0E-004 N |
| ACRYLAMIDE | 78001 | 2.00E-004 I | 4.50E+000 I | | 4.50E+000 I | | 1.5E+002 C | 1.4E+003 C | 7.0E-004 C | 1.3E+000 C | 1.4E-001 C | 3.7E-008 | 7.4E-009 C |
| ACRYLONITRILE | 107131 | 1.00E-003 H | 5.40E-001 I | 5.70E-004 I | 2.40E-001 I | y | 3.7E-002 C | 2.6E+002 C | 5.8E-003 C | 1.1E+001 C | 1.2E+000 C | 7.4E-008 | 1.5E-004 C |
| ALACHLOR | 15972608 | 1.00E-002 I | 8.00E-002 H | | | | 8.4E+001 C | 7.8E+002 C | 3.9E+002 C | 7.2E+001 C | 8.0E+000 C | 3.5E-004 | 7.0E-003 C |
| ALAR | 1598845 | 1.50E-001 I | | | | | 5.6E+003 N | 5.5E+002 N | 2.0E+002 N | 3.1E+005 N | 1.2E+004 N | | |
| ALDICARB | 118063 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | 1.0E-002 | 2.1E-001 N |
| ALDICARB SULFONE | 1648884 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | 7.5E-003 | 1.5E-001 N |
| ALDRIN | 309002 | 3.00E-005 I | 1.70E+001 I | | 1.70E+001 I | | 3.9E-003 C | 3.7E+004 C | 1.9E-004 C | 3.4E+001 C | 3.8E+002 C | 3.8E-004 | 7.7E-003 C |
| ALUMINUM | 7429805 | 1.00E+000 E | | 1.00E-003 E | | | 3.7E+004 N | 3.7E+000 N | 1.4E+003 N | 2.0E+006 N | 7.8E+004 N | | |
| AMINODINITROTOLUENES | | 6.00E-005 E | | | | | 2.2E+000 N | 2.2E+001 N | 8.1E-002 N | 1.2E+002 N | 4.7E+000 N | | |
| 4-AMINOPYRIDINE | 504245 | 2.00E-006 H | | | | | 7.3E-001 N | 7.3E+002 N | 2.7E+002 N | 4.1E+001 N | 1.8E+000 N | | |
| AMMONIA | 7684417 | | | 2.86E-002 I | y | | 2.1E+002 N | 1.0E+002 N | | | | | |
| ANILINE | 62533 | 7.00E-003 E | 5.70E-003 I | 2.90E-004 I | y | | 1.2E+001 C | 1.1E+000 N | 5.5E-001 C | 1.0E+003 C | 1.1E+002 C I | 8.8E-003 | 1.4E-001 C |
| ANTIMONY | 7440360 | 4.00E-004 I | | | | | 1.5E+001 N | 1.5E+000 N | 5.4E-001 N | 8.2E+002 N | 3.1E+001 N | 6.8E-001 | 1.3E+001 N |
| ANTIMONY PENTOXIDE | 1314809 | 5.00E-004 H | | | | | 1.8E+001 N | 1.8E+000 N | 6.8E-001 N | 1.0E+003 N | 3.8E+001 N | | |
| ANTIMONY TETROXIDE | 1332816 | 4.00E-004 H | | | | | 1.5E+001 N | 1.5E+000 N | 5.4E-001 N | 8.2E+002 N | 3.1E+001 N | | |
| ANTIMONY TRIOXIDE | 1399844 | 4.00E-004 H | | 6.70E-005 I | | | 1.6E+001 N | 2.1E+001 N | 5.4E-001 N | 8.2E+002 N | 3.1E+001 N | | |
| ARSENIC | 7440382 | 3.00E-004 I | 1.50E+000 I | | 1.51E+001 I | | 4.5E+002 C | 4.1E+004 C | 2.1E+003 C | 3.8E+000 C | 4.3E+001 C | 1.3E-003 | 2.6E-002 C |
| ARSINE | 7784421 | | | 1.40E-005 I | y | | 1.0E+001 N | 5.1E+002 N | | | | | |
| ASSURE | 76578148 | 9.00E-003 I | | | | | 3.3E+002 N | 3.3E+001 N | 1.2E+001 N | 1.8E+004 N | 7.0E+002 N | | |
| ATRAZINE | 1912249 | 3.50E-002 I | 2.20E-001 H | | | | 3.0E+001 C | 2.8E+002 C | 1.4E+002 C | 2.6E+001 C | 2.8E+000 C | 4.4E-004 | 8.8E-003 C |
| AZOBENZENE | 103333 | | 1.10E-001 I | | 1.10E-001 I | | 6.1E+001 C | 5.7E+002 C | 2.9E+002 C | 5.2E+001 C | 5.8E+000 C | 1.8E-003 | 3.5E-002 C |
| BARIUM | 7440393 | 7.00E-002 I | | 1.40E-004 A | | | 2.6E+003 N | 5.1E+001 N | 9.5E+001 N | 1.4E+005 N | 5.5E+003 N | 1.1E+002 | 2.1E+003 N |
| BAYGON | 114261 | 4.00E-003 I | | | | | 1.5E+002 N | 1.5E+001 N | 5.4E+000 N | 8.2E+003 N | 3.1E+002 N | | |
| BAYTHROID | 68359376 | 2.50E-002 I | | | | | 9.1E+002 N | 9.1E+001 N | 3.4E+001 N | 5.1E+004 N | 2.0E+003 N | | |
| BENTAZON | 25097690 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | | |
| BENZALDEHYDE | 100527 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | | |
| BENZENE | 71432 | 3.00E-003 E | 2.90E-002 I | 1.70E-003 E | 2.90E-002 I | y | 3.6E+001 C | 2.2E+001 C | 1.1E+001 C | 2.0E+002 C | 2.2E+001 C | 1.0E-004 | 2.1E-003 C |
| BENZENETHIOL | 108985 | 1.00E-006 H | | | | | 6.1E+002 N | 3.7E+002 N | 1.4E+002 N | 2.0E+001 N | 7.8E+001 N | | |
| BENZIDINE | 92876 | 3.00E-003 I | 2.30E+002 I | | 2.30E+002 I | | 2.9E+004 C | 2.7E+005 C | 1.4E+005 C | 2.5E+002 C | 2.8E+003 C | | |
| BENZOIC ACID | 65480 | 4.00E+000 I | | | | | 1.5E+005 N | 1.5E+004 N | 5.4E+003 N | 8.2E+006 N | 3.1E+005 N | | |
| BENZYL ALCOHOL | 100518 | 3.00E-001 H | | | | | 1.1E+004 N | 1.1E+003 N | 4.1E+002 N | 6.1E+005 N | 2.3E+004 N | 4.4E+000 | 8.8E+001 N |
| BENZYL CHLORIDE | 100447 | | 0.17 I | | | | 6.2E+002 C | 3.7E+002 C | 1.9E+002 C | 3.4E+001 C | 3.8E+000 C | 1.9E-005 | 3.7E-004 C |
| BERYLLIUM | 7440417 | 2.00E-003 I | | 5.7E-006 I | 8.40E+000 I | | 7.3E+001 N | 7.5E+004 C | 2.7E+000 N | 4.1E+003 N | 1.8E+002 N | 5.8E+001 | 1.2E+003 N |
| BIPHENYL | 92624 | 8.00E-002 I | | | | | 3.0E+002 N | 1.0E+002 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | 4.8E+000 | 9.8E+001 N |
| BIS(2-CHLOROETHYL)ETHER | 111444 | | 1.10E+000 I | | 1.10E+000 I | y | 9.8E+003 C | 5.7E+003 C | 2.9E+003 C | 5.2E+000 C | 5.8E+001 C | 2.2E-006 | 4.4E-005 C |
| BIS(2-CHLOROISOPROPYL)ETHER | 108801 | 4.00E-002 I | 7.00E-002 H | 3.50E-002 H | y | | 2.6E+001 C | 1.8E+001 C | 4.5E+002 C | 8.2E+001 C | 9.1E+000 C | 8.4E-005 | 1.7E-003 C |
| BIS(CHLOROMETHYL)ETHER | 942681 | | 2.20E+002 I | | 2.20E+002 I | y | 4.8E+005 C | 2.8E+005 C | 1.4E+005 C | 2.6E+002 C | 2.9E+003 C | 9.7E-009 | 1.9E-007 C |
| BIS(2-ETHYLHEXYL)PHTHALATE | 117817 | 2.00E-002 I | 1.40E-002 I | | 1.40E-002 E | | 4.8E+000 C | 4.5E+001 C | 2.3E+001 C | 4.1E+002 C | 4.6E+001 C | 1.4E+002 | 2.9E+003 C |
| BORON | 7440428 | 9.00E-002 I | | | 6.70E-003 H | | 3.3E+003 N | 2.1E+001 N | 1.2E+002 N | 1.8E+005 N | 7.0E+003 N | | |

EPA Region III RBC Table 10/7/1999 2

| Source: I = IRIS H = HEAST A = HEAST Alternate W = Withdrawn from IRIS or HEAST E = EPA-NCEA provisional value O = other | | | | | | | Basic C = Carcinogenic effects N = Noncarcinogenic effects I = RBC at HI of 0.1 < RBC-C Risk-based concentrations | | | | | Region III SSIs Soil for groundwater migration | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-----|--|-------------------------------------|---------------|-----------------------------|----------------------|---|-----------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFI 1/mg/kg/d | VOC | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg |
| BROMODICHLOROMETHANE | 75274 | 2.00E-002 I | 6.20E-002 I | | | y | 1.7E-001 C | 1.0E-001 C | 5.1E-002 C | 9.2E+001 C | 1.0E+001 C | 5.4E-005 | 1.1E-003 C |
| BROMOETHENE | 593602 | | | 8.6E-004 I | 1.10E-001 H | y | 1.1E-001 C | 5.7E-002 C | | | | 5.4E-005 | 1.1E-003 C |
| BROMOFORM | 75252 | 2.00E-002 I | 7.80E-003 I | | 3.90E-003 I | | 8.5E+000 C | 1.6E+000 C | 4.0E-001 C | 7.2E+002 C | 8.1E+001 C | 2.0E-001 | 4.1E+000 C |
| BROMOMETHANE | 74839 | 1.40E-003 I | | 1.40E-003 I | | y | 8.5E+000 N | 5.1E+000 N | 1.9E+000 N | 2.8E+003 N | 1.1E+002 N | 2.1E-003 | 4.1E-002 N |
| BROMOPHOS | 2104983 | 5.00E-003 H | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.9E+002 N | | |
| 1,3-BUTADIENE | 108990 | | | | 1.80E+000 H | y | 7.0E-003 C | 3.6E-003 C | | | | 3.9E-006 | 7.8E-005 C |
| 1-BUTANOL | 71983 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 7.8E-001 | 1.6E+001 N |
| BUTYLBENZYLPHthalate | 85687 | 2.00E-001 I | | | | | 7.3E+003 N | 7.3E+002 N | 2.7E+002 N | 4.1E+005 N | 1.6E+004 N | 8.4E+002 | 1.7E+004 N |
| BUTYRATE | 2008415 | 5.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | | |
| N-BUTYLBENZENE | 104618 | 1.00E-002 E | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| SEC-BUTYLBENZENE | 135988 | 1.00E-002 E | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| TERT-BUTYLBENZENE | 98000 | 1.00E-002 E | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| *CADMIUM-WATER | 7440439 | 6.00E-004 I | | 5.7E-005 E | 0.30E+000 I | | 1.8E+001 N | 9.9E-004 C | 6.8E+001 N | 1.0E+003 N | 3.9E+001 N | 1.4E+000 | 2.7E+001 N |
| *CADMIUM-FOOD | 7440439 | 1.00E-003 I | | 5.7E-005 E | 0.30E+000 I | | 3.7E+001 N | 9.9E-004 C | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | 2.7E+000 | 5.5E+001 N |
| CAPROLACTAM | 105602 | 6.00E-001 I | | | | | 1.8E+004 N | 1.8E+003 N | 6.8E+002 N | 1.0E+006 N | 3.9E+004 N | | |
| CARBARYL | 63252 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 1.5E+000 | 3.0E+001 N |
| CARBON DISULFIDE | 75180 | 1.00E-001 I | | -2.00E-001 I | | y | 1.0E+003 N | 7.3E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 9.5E-001 | 1.9E+001 N |
| CARBON TETRACHLORIDE | 68235 | 7.00E-004 I | 1.30E-001 I | 6.71E-004 E | 5.30E-002 I | y | 1.8E-001 C | 1.2E-001 C | 2.4E-002 C | 4.4E-001 C | 4.9E-004 C | 1.1E-004 | 2.1E-003 C |
| CARBOSULFAN | 55386148 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| CHLORAL | 75876 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | | |
| CHLORANIL | 118782 | | 4.00E-001 H | | | | 1.7E+001 C | 1.6E-002 C | 7.9E-003 C | 1.4E+001 C | 1.6E+000 C | | |
| CHLORDANE | 67749 | 5.00E-004 I | 3.6E-001 I | 2.00E-004 I | 3.5E-001 I | | 1.8E+001 C | 1.8E-002 C | 9.0E-003 C | 1.6E+001 C | 1.8E+000 C | 4.6E-002 | 8.2E-001 C |
| *CHLORINE | 778205 | 1.00E-001 I | | 5.7E-005 E | | y | 4.2E+001 N | 2.1E+001 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | | |
| CHLORINE DIOXIDE | 10049044 | | | 6.70E-005 I | | y | 4.2E+001 N | 2.1E+001 N | | | | | |
| CHLOROACETIC ACID | 78118 | 2.00E-003 H | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | | |
| 4-CHLORANILINE | 106478 | 4.00E-003 I | | | | | 1.5E+002 N | 1.5E+001 N | 6.4E+000 N | 8.2E+003 N | 3.1E+002 N | 4.8E-002 | 8.7E-001 N |
| CHLOROBENZENE | 108907 | 2.00E-002 I | | 1.7E-002 E | | y | 1.1E+002 N | 6.2E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 4.0E-002 | 8.0E-001 N |
| CHLOROBENZILATE | 610156 | 2.00E-002 I | 2.70E-001 H | | 2.70E-001 H | | 2.5E+001 C | 2.9E-002 C | 1.2E-002 C | 2.1E+001 C | 2.4E+000 C | 1.3E-003 | 2.7E-002 C |
| P-CHLOROBENZOIC ACID | 74113 | 2.00E-001 H | | | | | 7.3E+003 N | 7.3E+002 N | 2.7E+002 N | 4.1E+005 N | 1.6E+004 N | | |
| 2-CHLORO-1,3-BUTADIENE | 126998 | 2.00E-002 A | | 2.00E-003 H | | y | 1.4E+001 N | 7.3E+000 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 6.0E-003 | 1.2E-001 N |
| 1-CHLOROBUTANE | 109693 | 4.00E-001 H | | | | y | 2.4E+003 N | 1.6E+003 N | 6.4E+002 N | 8.2E+005 N | 3.1E+004 N | 1.0E+000 | 2.0E+001 N |
| 1-CHLORO-1,1-DIFLUOROETHANE | 75683 | | 1.40E+001 I | | | y | 1.0E+006 N | 5.1E+004 N | | | | 7.0E+001 | 1.4E+003 N |
| CHLORODIFLUOROMETHANE | 75456 | | 1.40E+001 I | | | y | 1.0E+005 N | 5.1E+004 N | | | | 7.0E+001 | 1.4E+003 N |
| CHLOROETHANE | 75003 | 4.00E-001 E | 2.90E-003 E | 2.90E+000 I | | y | 3.6E+000 C | 2.2E+000 C | 1.1E+000 C | 2.0E+003 C | 2.2E+002 C | 9.5E-004 | 1.6E-002 C |
| CHLOROFORM | 67863 | 1.00E-002 I | 6.10E-003 I | 6.6E-005 E | 8.10E-002 I | y | 1.5E+001 C | 7.7E-002 C | 5.2E+001 C | 9.4E+002 C | 1.0E+002 C | 4.5E-005 | 8.8E-004 C |
| CHLORMETHANE | 74873 | | 1.30E-002 H | 8.6E-002 E | 3.6E-003 E | y | 2.1E+000 C | 1.8E+000 C | 2.4E+001 C | 4.4E+002 C | 4.9E+001 C | 5.2E-004 | 1.0E-002 C |
| 4-CHLORO-2-METHYLANILINE | 65692 | | 5.60E-001 H | | | | 1.2E+001 C | 1.1E-002 C | 5.4E+002 N | 9.9E+000 C | 1.1E+000 C | | |
| BETA-CHLORONAPHTHALENE | 91587 | 8.00E-002 I | | | | | 4.9E+002 N | 2.9E+002 N | 1.1E+002 N | 1.6E+005 N | 6.3E+003 N | 1.6E+000 | 3.2E+001 N |
| O-CHLORONITROBENZENE | 88733 | | 2.50E-002 H | | | | 4.2E+001 C | 2.6E+001 C | 1.3E+001 C | 2.3E+002 C | 2.8E+001 C | | |
| P-CHLORONITROBENZENE | 100005 | | 1.80E-002 H | | | | 5.6E+001 C | 3.6E+001 C | 1.8E+001 C | 3.2E+002 C | 3.5E+001 C | | |
| 2-CHLOROPHENOL | 95578 | 6.00E-003 I | | | | | 3.0E+001 N | 1.6E+001 N | 6.6E+000 N | 1.0E+004 N | 3.9E+002 N | | |
| 2-CHLOROPROPANE | 75298 | | 2.90E-002 H | | | | 2.1E+002 N | 1.1E+002 N | | | | 6.6E-002 | 1.3E+000 N |
| O-CHLOROTOLUENE | 95498 | 2.00E-002 I | | | | | 1.2E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 6.5E-002 | 1.3E+000 N |
| CHLORPYRIFOS | 2921882 | 3.00E-003 I | | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 6.1E+003 N | 2.3E+002 N | 3.2E+000 | 6.3E+001 N |
| CHLORPYRIFOS-METHYL | 6590130 | 1.00E-002 H | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |

| Source: I = IRIS H = HEAST A = HEAST Alternate W = Withdrawn from IRIS or HEAST E = EPA-NCEA provisional value O = other | | | | | | | Basic: C = Carcinogenic effects N = Noncarcinogenic effects I = RBC at HI of 0.1 < RBC < | | | | | Risk-based concentrations | | Region III SSLs | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-------------|--|-------------------------------------|---------------|-----------------------------|----------------------|---------------------------|-----------------|-----------------|--|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFI 1/mg/kg/d | VOC | Tap water ug/L | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg | | |
| CHROMIUM III | 16065831 | 1.50E+000 I | | | | | 5.5E+004 N | 5.5E+003 N | 2.0E+003 N | 3.1E+008 N | 1.2E+005 N | 9.9E+007 | .20E+009 N | | |
| CHROMIUM VI | 18540299 | 3.00E-003 I | | 3.00E-005 I | 4.10E+001 H | | 1.1E+002 N | 1.5E+004 C | 4.1E+000 N | 6.1E+003 N | 2.3E+002 N | 2.1E+000 | 4.2E+001 N | | |
| COBALT | 7440484 | 8.00E-002 E | | | | | 2.2E+003 N | 2.2E+002 N | 8.1E+001 N | 1.2E+005 N | 4.7E+003 N | | | | |
| COKE OVEN EMISSIONS (COAL TAR) | 8007452 | | | | 2.2 I | | | 2.8E+003 C | | | | | | | |
| COPPER | 7440500 | 4.00E-002 H | | | | | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 6.2E+004 N | 3.1E+003 N | 5.3E+002 | 1.1E+004 N | | |
| CROTONALDEHYDE | 123739 | | | 1.90E+000 H | | y | 5.6E+003 C | 3.3E+003 C | 1.7E+003 C | 3.0E+000 C | 3.4E+001 C | 1.5E+005 | 3.1E+004 C | | |
| CUMENE | 98828 | 1.00E-001 I | | | 1.10E-001 I | y | 6.6E+002 N | 4.0E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 3.2E+000 | 6.4E+001 N | | |
| CYANIDE (FREE) | 67125 | 2.00E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.8E+003 N | 7.4E+000 | 1.5E+002 N | | |
| CALCIUM CYANIDE | 592018 | 4.E-002 I | | | | | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 8.2E+004 N | 3.1E+003 N | | | | |
| COPPER CYANIDE | 544923 | 8.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.9E+002 N | | | | |
| CYANAZINE | 21725482 | 2.00E-003 H | 8.40E-001 H | | | | 8.0E-002 C | 7.5E+003 C | 3.8E-003 C | 6.8E+000 C | 7.8E+001 C | 2.8E-005 | 5.3E-004 C | | |
| CYANOGEN | 400195 | 4.00E-002 I | | | | y | 2.4E+002 N | 1.5E+002 N | 5.4E+001 N | 8.2E+004 N | 3.1E+003 N | | | | |
| CYANOGEN BROMIDE | 500683 | 9.00E-002 I | | | | | 3.3E+003 N | 3.3E+002 N | 1.2E+002 N | 1.8E+005 N | 7.0E+003 N | | | | |
| CYANOGEN CHLORIDE | 500774 | 8.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | | | | |
| HYDROGEN CYANIDE | 74908 | 2.00E-002 I | | | 8.60E-004 I | y | 6.2E+000 N | 3.1E+000 N | 2.7E+001 N | 4.1E+004 N | 1.8E+003 N | 1.1E-001 | 2.2E+000 N | | |
| POTASSIUM CYANIDE | 151508 | 8.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.8E+003 N | | | | |
| POTASSIUM SILVER CYANIDE | 500616 | 2.00E-001 I | | | | | 7.3E+003 N | 7.3E+002 N | 2.7E+002 N | 4.1E+005 N | 1.8E+004 N | | | | |
| SILVER CYANIDE | 500649 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 3.1E+001 | 6.2E+002 N | | |
| SODIUM CYANIDE | 143339 | 4.00E-002 I | | | | | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 8.2E+004 N | 3.1E+003 N | | | | |
| **THIOCYANATE | | 5.00E-002 E | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | | | | |
| ZINC CYANIDE | 557211 | 5.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | 1.1E+002 | 2.3E+003 N | | |
| CYCLOHEXANONE | 108941 | 5.00E+000 I | | | | | 1.8E+005 N | 1.8E+004 N | 6.8E+003 N | 1.0E+007 N | 3.8E+005 N | 6.1E+001 | 1.2E+003 N | | |
| CYHALOTHIRKARATE | 68065858 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.8E+002 N | | | | |
| CYPERMETHRIN | 52315078 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | | | |
| DACTHAL | 1881321 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | | | |
| DALAPON | 75990 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | 3.5E-001 | 7.1E+000 N | | |
| DDD | 72548 | | | 2.40E-001 I | | | 2.8E+001 C | 2.8E+002 C | 1.3E+001 C | 2.4E+001 C | 2.7E+000 C | 5.0E-001 | 1.1E+001 C | | |
| DDOE | 72559 | | | 3.40E-001 I | | | 2.0E+001 C | 1.8E+002 C | 9.3E-003 C | 1.7E+001 C | 1.9E+000 C | 1.8E+000 | 3.5E+001 C | | |
| DDT | 60293 | 5.00E-004 I | 3.40E-001 I | | 3.40E-001 I | | 2.0E+001 C | 1.8E+002 C | 9.3E-003 C | 1.7E+001 C | 1.9E+000 C | 5.8E-002 | 1.2E+000 C | | |
| DIAZINON | 333416 | 9.00E-004 H | | | | | 3.3E+001 N | 3.3E+000 N | 1.2E+000 N | 1.8E+003 N | 7.0E+001 N | 2.1E-002 | 4.3E-001 N | | |
| DIBENZOFURAN | 132049 | 4.00E-003 E | | | | y | 2.4E+001 N | 1.8E+001 N | 5.4E+000 N | 8.2E+003 N | 3.1E+002 N | 3.8E-001 | 7.7E+000 N | | |
| 1,4-DIBROMOBENZENE | 100376 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | | | |
| DIBROMOCHLOROMETHANE | 124481 | 2.00E-002 I | 8.40E-002 I | | | y | 1.3E+001 C | 7.5E+002 C | 3.8E+002 C | 6.8E+001 C | 7.6E+000 C | 4.1E-005 | 8.3E-004 C | | |
| 1,2-DIBROMO-3-CHLOROPROPANE | 66128 | | | 1.40E+000 H | 5.70E-005 I | 2.40E-003 H | y | 4.7E+002 C | 2.1E+001 N | 2.3E+003 C | 4.1E+000 C | 4.6E+001 C | 4.4E-005 | 8.7E-004 C | |
| 1,2-DIBROMOETHANE | 106034 | 8.50E+001 I | 6.70E-005 H | 7.60E-001 I | y | | 7.5E+004 C | 8.2E+003 C | 3.7E+005 C | 6.7E+002 C | 7.5E+003 C | 4.3E-007 | 8.5E-008 C | | |
| DIBUTYLPHthalate | 84742 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 2.5E+002 | 5.0E+003 N | | |
| DICAMBA | 1919009 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | 2.2E-001 | 4.5E+000 N | | |
| 1,2-DICHLOROBENZENE | 95501 | 9.00E-002 I | | | | y | 5.5E+002 N | 3.3E+002 N | 1.2E+002 N | 1.8E+005 N | 7.0E+003 N | 4.6E-001 | 9.3E+000 N | | |
| 1,3-DICHLOROBENZENE | 541731 | 9.00E-004 E | | | | y | 5.5E+000 N | 3.3E+000 N | 1.2E+000 N | 1.8E+003 N | 7.0E+001 N | 4.4E-003 | 8.7E-002 N | | |
| 1,4-DICHLOROBENZENE | 106467 | 3.00E-002 E | 2.40E-002 H | 2.29E-001 I | 2.2E-002 E | y | 4.7E+001 C | 2.0E+001 C | 1.3E+001 C | 2.4E+002 C | 2.7E+001 C | 3.6E-004 | 7.1E-003 C | | |
| 3,3'-DICHLOROBENZIDINE | 91941 | | | 4.50E-001 I | | | 1.5E+001 C | 1.4E+002 C | 7.0E+003 C | 1.3E+001 C | 1.4E+000 C | 2.5E-004 | 4.9E-003 C | | |
| 1,4-DICHLORO-2-BUTENE | 764410 | | | | | 9.30E+000 H | 1.3E+001 C | 1.3E+003 C | 6.7E+004 C | | | 4.0E-007 | 8.0E-006 C | | |
| DICHLORODIFLUOROMETHANE | 75718 | 2.00E-001 I | | | 6.00E-002 A | y | 3.5E+002 N | 1.8E+002 N | 2.7E+002 N | 4.1E+005 N | 1.8E+004 N | 5.5E-001 | 1.1E+001 N | | |
| 1,1-DICHLOROETHANE | 75343 | 1.00E-001 H | | | 1.40E-001 A | y | 8.0E+002 N | 6.1E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 2.3E-001 | 4.5E+000 N | | |
| 1,2-DICHLOROETHANE | 107082 | 3.00E-002 E | 9.10E-002 I | 1.40E-003 E | 9.10E-002 I | y | 1.2E+001 C | 6.9E+002 C | 3.5E+002 C | 6.3E+001 C | 7.0E+000 C | 5.2E-005 | 1.0E-003 C | | |

| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC | Risk-based concentrations | | | | | Region III SSIs | |
|-------------------------------------|----------|-----------------|-------------------|-----------------|-------------------|-----|---------------------------|-------------------------------------|---------------|-----------------------------|----------------------|--|-----------------|
| | | | | | | | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | Soil for groundwater migration DAF 1 mg/kg | DAF 20 mg/kg |
| 1,1-DICHLOROETHENE | 75354 | 9.00E-003 I | 6.00E-001 I | | 1.75E-001 I | y | 4.4E-002 C | 3.6E-002 C | 5.3E-003 C | 9.5E+000 C | 1.1E+000 C | 1.8E-005 | 3.8E-004 C |
| CIS-1,2-DICHLOROETHENE | 156592 | 1.00E-002 H | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | 1.7E-002 | 3.5E-001 N |
| TRANS-1,2-DICHLOROETHENE | 156605 | 2.00E-002 I | | | | y | 1.2E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 4.1E-002 | 8.2E-001 N |
| TOTAL 1,2-DICHLOROETHENE | 840590 | 9.00E-003 H | | | | y | 5.5E+001 N | 3.3E+001 N | 1.2E+001 N | 1.8E+004 N | 7.0E+002 N | 1.9E-002 | 3.7E-001 N |
| 2,4-DICHLOROPHENOL | 120832 | 3.00E-003 I | | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 6.1E+003 N | 2.3E+002 N | 6.0E-002 | 1.2E+000 N |
| 2,4-D | 94757 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | 4.5E-001 | 9.0E+000 N |
| 4-(2-DICHLOROPHOXY)BUTYRIC ACID | 94826 | 8E-003 I | | | | | 2.9E+002 N | 2.9E+001 N | 1.1E+001 N | 1.8E+004 N | 6.3E+002 N | | |
| 1,2-DICHLOROPROPANE | 78876 | | 6.80E-002 H | 1.14E-003 I | | y | 1.6E+001 C | 9.2E+002 C | 4.6E+002 C | 8.4E+001 C | 9.4E+000 C | 1.0E-004 | 2.1E-003 C |
| 2,3-DICHLOROPROPANOL | 616239 | 3.00E-003 I | | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 6.1E+003 N | 2.3E+002 N | | |
| 1,3-DICHLOROPROPENE | 542768 | 3.00E-004 I | 1.80E-001 H | 5.71E-003 I | 1.30E-001 H | y | 7.7E-002 C | 4.8E-002 C | 1.8E-002 C | 3.2E+001 C | 3.5E+000 C | 2.7E-005 | 5.5E-004 C |
| DICHLORVOS | 62737 | 6E-004 I | 0.29 I | 1.43E-004 I | | | 2.3E-001 C | 2.2E-002 C | 1.1E-002 C | 2.0E+001 C | 2.2E+000 C | 5.5E-005 | 1.1E-003 C |
| DICOFOL | 115322 | | 4.4E+001 W | | | | 1.5E+001 C | 1.4E+002 C | 7.2E+003 C | 1.3E+001 C | 1.5E+000 C | 9.3E-004 | 1.9E-002 C |
| DICYCLOPENTADIENE | 17730 | 3E-002 H | | 6.00E-005 A | | y | 4.4E-001 N | 2.2E+001 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | | |
| DIELDRIN | 60571 | 5.00E-005 I | 1.60E+001 I | | 1.80E+001 I | | 4.2E-003 C | 3.8E-004 C | 2.0E-004 C | 3.6E-001 C | 4.0E-002 C | 1.1E-004 | 2.2E-003 C |
| DIESEL EMISSIONS | | | | | 1.40E-003 I | | | 5.1E+000 N | | | | | |
| DIETHYLPHthalATE | 84662 | 8.00E-001 I | | | | | 2.9E+004 N | 2.9E+003 N | 1.1E+003 N | 1.8E+008 N | 6.3E+004 N | 2.3E+001 | 4.5E+002 N |
| DIETHYLENE GLYCOL, MONOBUTYL ETHER | 112345 | | | | 5.70E-003 H | | | 2.1E+001 N | | | | | |
| DIETHYLENE GLYCOL, MONOETHYL ETHER | 111900 | 2.00E+000 H | | | | | 7.3E+004 N | 7.3E+003 N | 2.7E+003 N | 4.1E+008 N | 1.6E+005 N | | |
| DI(2-ETHYLHEXYL)ADIPATE | 103231 | 6.00E-001 I | 1.20E-003 I | | | | 5.6E+001 C | 6.2E+000 C | 2.6E+000 C | 4.6E+003 C | 5.3E+002 C | | |
| DIETHYLSTILBESTROL | 56531 | | 4.70E+003 H | | | | 1.4E-005 C | 1.3E-006 C | 6.7E-007 C | 1.2E-003 C | 1.4E-004 C | | |
| DIFENZOCOQUAT (AVENGE) | 4322488 | 8.00E-002 I | | | | | 2.9E+003 N | 2.9E+002 N | 1.1E+002 N | 1.8E+005 N | 6.3E+003 N | | |
| 1,1-DIFLUOROETHANE | 75376 | | | 1.10E+001 I | | y | 8.0E+004 N | 4.0E+004 N | | | | | |
| DISOPROPYL METHYLPHOSPHONATE (DIMP) | 1445756 | 8.00E-002 I | | | | | 2.9E+003 N | 2.9E+002 N | 1.1E+002 N | 1.8E+005 N | 6.3E+003 N | | |
| 3,3'-DIMETHOXYBENZIDINE | 119804 | | 1.40E-002 H | | | | 4.8E+000 C | 4.5E+001 C | 2.3E+001 C | 4.1E+002 C | 4.6E+001 C | 8.5E-008 | 1.7E-004 N |
| DIMETHYLAMINE | 124403 | | | 5.70E-006 W | | y | 4.2E-002 N | 2.1E+002 N | | | | | |
| 2,4-DIMETHYLANILINE HYDROCHLORIDE | 21436904 | | 5.80E-001 H | | | | 1.2E+001 C | 1.1E+002 C | 5.4E+003 C | 9.9E+000 C | 1.1E+000 C | | |
| 2,4-DIMETHYLANILINE | 95681 | | 7.50E-001 H | | | | 8.9E+002 C | 8.3E+003 C | 4.2E+003 C | 7.6E+000 C | 8.5E+001 C | | |
| N,N-DIMETHYLANILINE | 121897 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | | |
| 3,3'-DIMETHYLBENZIDINE | 119937 | | | 9.20E+000 H | | | 7.3E-003 C | 6.8E+004 C | 3.4E+004 C | 6.2E+001 C | 8.9E-002 C | | |
| 1,1-DIMETHYLHYDRAZINE | 57147 | | 2.60E+000 W | | 3.50E+000 W | | 2.0E-002 C | 1.8E+003 C | 1.2E+003 C | 2.2E+000 C | 2.5E+001 C | | |
| 1,2-DIMETHYLHYDRAZINE | 540738 | | 3.70E+001 W | | 3.70E+001 W | | 1.8E+003 C | 1.7E+004 C | 8.5E+005 C | 1.5E+001 C | 1.7E+002 C | | |
| 2,4-DIMETHYLPHENOL | 105679 | 2.00E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 3.4E-001 | 6.7E+000 N |
| 2,8-DIMETHYLPHENOL | 576261 | 8.00E-004 I | | | | | 2.2E+001 N | 2.2E+000 N | 8.1E+001 N | 1.2E+003 N | 4.7E+001 N | | |
| 3,4-DIMETHYLPHENOL | 95658 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | | |
| DIMETHYLPHthalATE | 131113 | 1.00E+001 W | | | | | 3.7E+005 N | 3.7E+004 N | 1.4E+004 N | 2.0E+007 N | 7.8E+005 N | | |
| 1,2-DINITROBENZENE | 528290 | 4.00E-004 H | | | | | 1.5E+001 N | 1.5E+000 N | 6.4E+001 N | 8.2E+002 N | 3.1E+001 N | | |
| 1,3-DINITROBENZENE | 99850 | 1.00E-004 I | | | | | 3.7E+000 N | 3.7E+001 N | 1.4E+001 N | 2.0E+002 N | 7.8E+000 N | 1.8E-003 | 3.7E-002 N |
| 1,4-DINITROBENZENE | 100254 | 4.00E-004 H | | | | | 1.5E+001 N | 1.5E+000 N | 6.4E+001 N | 8.2E+002 N | 3.1E+001 N | | |
| 4,6-DINITRO-O-CYCLOHEXYL PHENOL | 191895 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | | |
| 4,6-DINITRO-2-METHYLPHENOL | 634521 | 1.00E-004 E | | | | | 3.7E+000 N | 3.7E+001 N | 1.4E+001 N | 2.0E+002 N | 7.8E+000 N | | |
| 2,4-DINITROPHENOL | 61285 | 2.00E-003 I | | | 6.80E-001 I | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | | |
| DINITROTOLUENE MIX | | | | | | | 9.8E-002 C | 9.2E+003 C | 4.6E+003 C | 8.4E+000 C | 9.4E+001 C | | |
| 2,4-DINITROTOLUENE | 121142 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | 2.9E-002 | 5.7E-001 N |
| 2,6-DINITROTOLUENE | 606202 | 1.00E-003 H | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | 1.2E-002 | 2.5E-001 N |
| DINOSEB | 98857 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | 8.7E-003 | 1.7E-001 N |

| Source: I = IRIS H = HEAST A = HEAST Alternate W = Withdrawn from IRIS or HEAST E = EPA-NCEA provisional value O = other | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects I = RBC at HI of 0.1 < RBC-o Risk-based concentrations | | | | | | Region III SSLs Soil, for groundwater migration | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-----|---|-------------------------------------|---------------|-----------------------------|----------------------|----------------|--|------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDI mg/kg/d | CSFI 1/mg/kg/d | VOC | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg | |
| DIOCYLPHTHALATE | 117840 | 2.00E-002 H | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 1.2E+005 | 2.4E+006 N | |
| 1,4-DIOXANE | 123911 | | 1.10E-002 I | | | | 6.1E+000 C | 5.7E+001 C | 2.9E+001 C | 5.2E+002 C | 5.8E+001 C | 1.3E-003 | 2.6E-002 C | |
| DIPHENYLAMINE | 122394 | 2.50E-002 I | | | | | 9.1E+002 N | 9.1E+001 N | 3.4E+001 N | 5.1E+004 N | 2.0E+003 N | 1.3E+000 | 2.5E+001 N | |
| 1,2-DIPHENYLHYDRAZINE | 124967 | | 8.00E-001 I | | 8.00E-001 I | | 8.4E-002 C | 7.6E-003 C | 3.9E-003 C | 7.2E+000 C | 8.0E-001 C | 1.3E-004 | 2.5E-003 C | |
| DIQUAT | 86007 | 2.20E-003 I | | | | | 9.0E+001 N | 8.0E+000 N | 3.0E+000 N | 4.5E+003 N | 1.7E+002 N | 1.7E-002 | 3.3E-001 N | |
| DISULFOTON | 290044 | 4.00E-005 I | | | | | 1.5E+000 N | 1.5E+001 N | 5.4E-002 N | 8.2E+001 N | 3.1E+000 N | 3.2E-003 | 8.4E-002 N | |
| 1,4-DITHIANE | 606293 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | | |
| DIURON | 330641 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | 5.8E-002 | 1.2E+000 N | |
| ENDOSULFAN | 115297 | 6.00E-003 I | | | | | 2.2E+002 N | 2.2E+001 N | 8.1E+000 N | 1.2E+004 N | 4.7E+002 N | 9.8E-001 | 2.0E+001 N | |
| ENDRIN | 72208 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E+001 N | 6.1E+002 N | 2.3E+001 N | 2.7E-001 | 5.4E+000 N | |
| EPICHLOROHYDRIN | 106886 | 2.00E-003 H | 9.90E-003 I | 2.80E-004 I | 4.20E-003 I | y | 2.0E+000 N | 1.0E+000 N | 3.2E+001 C | 5.8E+002 C | 6.5E+001 C | 4.2E-004 | 8.4E-003 N | |
| ETHION | 563122 | 5.00E-004 I | | | | | 1.8E+001 N | 1.8E+000 N | 6.8E+001 N | 1.0E+003 N | 3.9E+001 N | 3.2E-001 | 6.4E+000 N | |
| 2-ETHOXYETHANOL | 110005 | 4.00E-001 H | | 5.70E-002 I | | | 1.5E+004 N | 2.1E+002 N | 5.4E+002 N | 8.2E+005 N | 3.1E+004 N | 3.3E+000 | 6.5E+001 N | |
| ETHYL ACETATE | 141786 | 9.00E-001 I | | | | y | 5.5E+003 N | 3.3E+003 N | 1.2E+003 N | 1.8E+008 N | 7.0E+004 N | 1.7E+000 | 3.5E+001 N | |
| ETHYL BENZENE | 100414 | 1.00E-001 I | | 2.80E-001 I | | y | 1.3E+003 N | 1.1E+003 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 7.5E-001 | 1.5E+001 N | |
| ETHYLENE DIAMINE | 107163 | 2.00E-002 H | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | | | |
| ETHYLENE GLYCOL | 107211 | 2.00E+000 I | | | | | 7.3E+004 N | 7.3E+003 N | 2.7E+003 N | 4.1E+006 N | 1.6E+005 N | 1.5E+001 | 3.0E+002 N | |
| ETHYLENE GLYCOL, MONOBUTYL ETHER | 111762 | | | 6.70E-003 H | | | | 2.1E+001 N | | | | | | |
| ETHYLENE OXIDE | 76210 | | 1.00E+000 H | | 3.50E-001 H | y | 2.3E-002 C | 1.8E-002 C | 3.2E-003 C | 5.7E+000 C | 6.4E-001 C | 4.8E-006 | 9.5E-005 C | |
| ETHYLENE THIOUREA | 99457 | 8.00E-005 I | 1.1E-001 H | | | | 6.1E-001 C | 5.7E-002 C | 2.9E-002 C | 5.2E+001 C | 5.8E+000 C | | | |
| ETHYL ETHER | 90297 | 2.00E-001 I | | | | y | 1.2E+003 N | 7.3E+002 N | 2.7E+002 N | 4.1E+005 N | 1.6E+004 N | 4.2E-001 | 8.5E+000 N | |
| ETHYL METHACRYLATE | 97632 | 8.00E-002 H | | | | y | 5.5E+002 N | 3.3E+002 N | 1.2E+002 N | 1.8E+005 N | 7.0E+003 N | 1.0E+000 | 2.1E+001 N | |
| FENAMIPHOS | 22224926 | 2.50E-004 I | | | | | 9.1E+000 N | 9.1E+001 N | 3.4E+001 N | 5.1E+002 N | 2.0E+001 N | | 7.8E-003 | 1.8E-001 N |
| FLUOMETURON | 2184172 | 1.30E-002 I | | | | | 4.7E+002 N | 4.7E+001 N | 1.8E+001 N | 2.7E+004 N | 1.0E+003 N | | | |
| FLUORINE | 7782414 | 6.00E-002 I | | | | | 2.2E+003 N | 2.2E+002 N | 8.1E+001 N | 1.2E+005 N | 4.7E+003 N | | | |
| FOMESAFEN | 72176020 | | 1.90E-001 I | | | | 3.6E-001 C | 3.3E-002 C | 1.7E-002 C | 3.0E+001 C | 3.4E+000 C | | | |
| FONOFOSS | 944229 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | 1.8E-001 | 3.5E+000 N | |
| FORMALDEHYDE | 50000 | 2.00E-001 I | | | 4.50E-002 I | | 7.3E+003 N | 1.4E+001 C | 2.7E+002 N | 4.1E+005 N | 1.6E+004 N | 1.5E+000 | 3.0E+001 N | |
| FORMIC ACID | 64188 | 2.00E+000 H | | | | | 7.3E+004 N | 7.3E+003 N | 2.7E+003 N | 4.1E+006 N | 1.6E+005 N | | | |
| FURAN | 110000 | 1.00E-003 I | | | | y | 0.1E+000 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | 1.5E-003 | 3.0E-002 N | |
| FURAZOLIDONE | 67488 | | 3.80E+000 H | | | | 1.8E-002 C | 1.8E-003 C | 8.3E-004 C | 1.5E+000 C | 1.7E-001 C | | | |
| FURFURAL | 99011 | 3.00E-003 I | | 1.00E-002 A | | | 1.1E+002 N | 3.7E+001 N | 4.1E+000 N | 6.1E+003 N | 2.3E+002 N | 2.3E-002 | 4.6E-001 N | |
| GLYCIDALDEHYDE | 765344 | 4.00E-004 I | | 2.90E-004 H | | | 1.5E+001 N | 1.1E+000 N | 5.4E+001 N | 8.2E+002 N | 3.1E+001 N | | | |
| GLYPHOSATE | 1071836 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | 2.8E+001 | 5.3E+002 N | |
| HEPTACHLOR | 76448 | 5.00E-004 I | 4.50E+000 I | | 4.50E+000 I | | 1.5E-002 C | 1.4E-003 C | 7.0E-004 C | 1.3E+000 C | 1.4E-001 C | 4.2E-002 | 8.4E-001 C | |
| HEPTACHLOR EPOXIDE | 1024573 | 1.30E-005 I | 9.10E+000 I | | 9.10E+000 I | | 7.4E-003 C | 6.9E-004 C | 3.5E-004 C | 6.3E-001 C | 7.0E-002 C | 1.2E-003 | 2.5E-002 C | |
| HEXBROMOBENZENE | 67821 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | | | |
| HEXAChLOROBENZENE | 118741 | 8.00E-004 I | 1.60E+000 I | | 1.60E+000 I | | 4.2E-002 C | 3.9E-003 C | 2.0E-003 C | 3.6E+000 C | 4.0E-001 C | 2.6E-003 | 5.2E-002 C | |
| HEXAChLOROBUTADIENE | 67883 | 2.00E-004 H | 7.80E-002 I | | 7.80E-002 I | | 8.6E-001 C | 8.0E-002 C | 4.0E-002 C | 7.3E+001 C | 8.2E+000 C | 9.2E-002 | 1.8E+000 C | |
| ALPHA-HCH | 319846 | | 6.30E+000 I | | 6.30E+000 I | | 1.1E-002 C | 9.9E-004 C | 5.0E-004 C | 9.1E-001 C | 1.0E-001 C | 4.5E-005 | 8.8E-004 C | |
| BETA-HCH | 319887 | | 1.80E+000 I | | 1.80E+000 I | | 3.7E-002 C | 3.5E-003 C | 1.8E-003 C | 3.2E+000 C | 3.6E-001 C | 1.6E-004 | 3.1E-003 C | |
| GAMMA-HCH (LINDANE) | 58889 | 3.00E-004 I | 1.30E+000 H | | | | 6.2E-002 C | 4.8E-003 C | 2.4E-003 C | 4.4E+000 C | 4.9E-001 C | 2.2E-004 | 4.3E-003 C | |
| TECHNICAL HCH | 608731 | | 1.80E+000 I | | 1.80E+000 I | | 3.7E-002 C | 3.5E-003 C | 1.8E-003 C | 3.2E+000 C | 3.5E-001 C | | | |
| HEXACHLOROCYCLOPENTADIENE | 77474 | 7.00E-003 I | | | 2.00E-005 H | | 2.6E+002 N | 7.3E+002 N | 9.5E+000 N | 1.4E+004 N | 5.5E+002 N | 1.0E+002 | 2.0E+003 N | |
| HEXACHLORODIBENZODIOXIN MIX | 1940743 | | 6.20E+003 I | | 4.55E+003 I | | 1.1E-006 C | 1.4E-006 C | 5.1E-007 C | 9.2E-004 C | 1.0E-004 C | | | |

EPA Region III RBC Table 10/7/1999 8

| Source I = IRIS H = HEAST A = HEAST Alternate W = Withdrawn from IRIS or HEAST | | | | | | | Basic C = Cardiogenic effects N = Noncardiogenic effects I = RBC at HI of 0.1 < RBC-c | | | | | Region III SSLs | | |
|--|----------|-------------|-------------|-------------|-------------|-----|---|-------------------------------|--------------|-----------------------|-------------------|-----------------|--------------|------------|
| Chemical | CAS | RfDo | CSFo | RfDi | CSFI | VOC | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg | |
| | | mg/kg/d | 1/mg/kg/d | mg/kg/d | 1/mg/kg/d | | | | | | | | | |
| HEXACHLOROETHANE | 67721 | 1.00E-003 I | 1.40E-002 I | | 1.40E-002 I | | 4.8E+000 C I | 4.5E+001 C I | 2.3E+001 C I | 4.1E+002 C I | 4.6E+001 C I | 1.8E-002 | 3.6E-001 C | |
| HEXACHLOROPHENE | 70304 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 6.1E+002 N | 2.3E+001 N | 1.0E+002 | 2.0E+003 N | |
| 1,6-HEXAMETHYLENE DIISOCYANATE | 822060 | | | 2.90E-006 I | | | | 1.1E-002 N | | | | | | |
| HEXANE | 110643 | 8.00E-002 H | | 5.71E-002 I | I | | 3.5E+002 N | 2.1E+002 N | 8.1E+001 N | 1.2E+005 N | 4.7E+003 N | | 6.9E-001 | 1.4E+001 N |
| 2-HEXANONE | 591788 | 4.00E-002 E | | 1.4E-003 E | | | 1.5E+003 N | 5.1E+000 N | 5.4E+001 N | 8.2E+004 N | 3.1E+003 N | | | |
| HEXAZINONE | 51235042 | 3.30E-002 I | | | | | 1.2E+003 N | 1.2E+002 N | 4.5E+001 N | 6.7E+004 N | 2.6E+003 N | | | |
| HMX | 2691410 | 8.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 8.8E+001 N | 1.0E+005 N | 3.9E+003 N | | | |
| HYDRAZINE | 302012 | | 3.00E+000 I | | 1.70E+001 I | | 2.2E+002 C | 3.7E+004 C | 1.1E+003 C | 1.9E+000 C | 2.1E+001 C | | | |
| HYDROGEN CHLORIDE | 7647010 | | | 5.70E-003 I | | | | 2.1E+001 N | | | | | | |
| HYDROGEN SULFIDE | 7783064 | 3.00E-003 I | | 2.85E-004 I | | | 1.1E+002 N | 1.0E+000 N | 4.1E+000 N | 6.1E+003 N | 2.3E+002 N | | | |
| HYDROQUINONE | 123319 | 4.00E-002 H | | | | | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 8.2E+004 N | 3.1E+003 N | | | |
| IRON | 7439890 | 3.00E-001 E | | | | | 1.1E+004 N | 1.1E+003 N | 4.1E+002 N | 6.1E+005 N | 2.3E+004 N | | | |
| ISOBUTANOL | 78831 | 3.00E-001 I | | | | | 1.8E+003 N | 1.1E+003 N | 4.1E+002 N | 6.1E+005 N | 2.3E+004 N | | 5.9E-001 | 1.2E+001 N |
| ISOPHORONE | 78561 | 2.00E-001 I | 9.50E-004 I | | | | 7.0E+001 C | 6.8E+000 C | 3.3E+000 C | 6.0E+003 C | 6.7E+002 C | | 2.1E-002 | 4.1E-001 C |
| ISOPROPALIN | 33820530 | 1.60E-002 I | | | | | 5.5E+002 N | 5.5E+001 N | 2.0E+001 N | 3.1E+004 N | 1.2E+003 N | | | |
| ISOPROPYL METHYL PHOSPHONIC ACID | 1832540 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | | | |
| TETRAETHYLLLEAD | 78002 | 1.00E-007 I | | | | | 3.7E-003 N | 3.7E+004 N | 1.4E+004 N | 2.0E+001 N | 7.8E+003 N | | 4.6E-005 | 9.2E-004 N |
| LITHIUM | 74398932 | 2.00E-002 E | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.8E+003 N | | | |
| MALATHION | 121755 | 2.00E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.8E+003 N | | 4.0E-001 | 8.1E+000 N |
| MALEIC ANHYDRIDE | 106316 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | | | |
| MANGANESE-NONFOOD | 74398965 | 2.00E-002 I | | 1.43E-005 I | | | 7.3E+002 N | 6.2E+002 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | | 4.8E+001 | 9.5E+002 N |
| MANGANESE-FOOD | 74398965 | 1.40E-001 I | | 1.43E-005 I | | | 6.1E+003 N | 5.2E+002 N | 1.9E+002 N | 2.0E+005 N | 1.1E+004 N | | 3.3E+002 | 6.7E+003 N |
| MEPHOSFOLAN | 980107 | 9.00E-005 H | | | | | 3.3E+000 N | 3.3E+000 N | 1.2E+001 N | 1.8E+002 N | 7.0E+000 N | | | |
| MEPIQUAT CHLORIDE | 24307264 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | | | |
| MERCURIC CHLORIDE | 7487047 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E+001 N | 6.1E+002 N | 2.3E+001 N | | | |
| MERCURY (INORGANIC) | 7439978 | | 8.80E-005 I | | | | | 3.1E+001 N | | | | | | |
| METHYLMERCURY | 22987926 | 1.00E-004 I | | | | | 3.7E+000 N | 3.7E+001 N | 1.4E+001 N | 2.0E+002 N | 7.8E+000 N | | 2.1E-004 | 4.2E-003 N |
| METHACRYLONITRILE | 126987 | 1.00E-004 I | | 2.00E-004 A | | | 1.0E+000 N | 7.3E+001 N | 1.4E+001 N | 2.0E+002 N | 7.8E+000 N | | 3.8E+000 | 7.5E+001 N |
| METHANOL | 87561 | 6.00E-001 I | | | | | 1.8E+004 N | 1.8E+003 N | 6.8E+002 N | 1.0E+006 N | 3.9E+004 N | | | |
| METHIDATHION | 950378 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | | 1.5E+001 | 3.1E+002 N |
| METHOXYCHLOR | 72435 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.9E+002 N | | | |
| METHYL ACETATE | 79209 | 1.00E+000 H | | | | | 6.1E+003 N | 3.7E+003 N | 1.4E+003 N | 2.0E+006 N | 7.8E+004 N | | 1.2E+000 | 2.5E+001 N |
| METHYL ACRYLATE | 98333 | 3.00E-002 A | | | | | 1.8E+002 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | | 5.0E-001 | 1.0E+001 N |
| 2-METHYLANILINE | 95334 | | 2.40E-001 H | | | | 2.8E+001 C | 2.8E+002 C | 1.3E+002 C | 2.4E+001 C | 2.7E+000 C | | 2.8E-004 | 5.7E-003 C |
| 4-(2-METHYL-4-CHLOROPHOENOXY) BUTYRIC ACID | 94615 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | | |
| 2-METHYL-4-CHLOROPHOENOXYACETIC ACID (MCPA) | 94746 | 5.00E-004 I | | | | | 1.8E+001 N | 1.8E+000 N | 6.8E+001 N | 1.0E+003 N | 3.9E+001 N | | | |
| 2-(2-METHYL-4-CHLOROPHOENOXY)PROPIONIC ACID (MC) | 93652 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | | | |
| METHYLCYCLOHEXANE | 108672 | | 8.80E-001 H | | | | 0.3E+003 N | 3.1E+003 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | 1.5E-002 | 3.0E-001 N |
| METHYLENE BROMIDE | 74953 | 1.00E-002 A | | | | | 0.1E+001 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | | |
| METHYLENE CHLORIDE | 76002 | 6.00E-002 I | 7.50E-003 I | 8.80E-001 H | 1.65E-003 I | y | 4.1E+000 C | 3.8E+000 C | 4.2E+001 C | 7.6E+002 C | 6.5E+001 C | 9.5E-004 | 1.9E-002 C | |
| 4,4'-METHYLENE BIS(2-CHLOROANILINE) | 101144 | 7.00E-004 H | 1.30E-001 H | | 1.30E-001 H | | 5.2E-001 C | 4.8E-002 C | 2.4E-002 C | 4.4E+001 C | 4.9E+000 C | | | |
| 4,4'-METHYLENE BIS(N,N-DIMETHYL)ANILINE | 101611 | | 4.60E-002 I | | | | 1.5E+000 C | 1.4E+001 C | 6.9E-002 C | 1.2E+002 C | 1.4E+001 C | | | |
| 4,4'-METHYLENEDIPHENYL ISOCYANATE | 101688 | | | 1.7E-004 I | | | | 6.2E-001 N | | | | | | |
| METHYL ETHYL KETONE (2-BUTANONE) | 79393 | 6.00E-001 I | | 2.86E-001 I | | | 1.9E+003 N | 1.0E+003 N | 8.1E+002 N | 1.2E+008 N | 4.7E+004 N | 4.0E-001 | 7.9E+000 N | |
| METHYL HYDRAZINE | 80344 | | 1.10E+000 W | | | | 6.1E-002 C | 6.7E-003 C | 2.9E-003 C | 5.2E+000 C | 5.8E-001 C | | | |

| Sources I = IRIS H = HEAST A = HEAST Alternate W = Withdrawn from IRIS or HEAST E = EPA-NCEA provisional value. O = other | | | | | | | Basic: C = Carcinogenic effects N = Noncarcinogenic effects I = RBC at HI of 0.1 + RBC-o Risk-based concentrations | | | | | Region III SSLs | |
|--|----------|-----------------|-------------------|-----------------|-------------------|-----|---|-------------------------------------|---------------|-----------------------------|----------------------|---|-----------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFI 1/mg/kg/d | VOC | Tap water ug/l | Ambien/ air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | Soil, for groundwater migration DAF 1 mg/kg | DAF 20 mg/kg |
| METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE) | 106101 | 8.00E-002 H | | 2.00E-002 A | | y | 1.4E+002 N | 7.3E+001 N | 1.1E+002 N | 1.6E+005 N | 8.3E+003 N | 6.5E-002 | 1.3E+000 N |
| METHYL METHACRYLATE | 80626 | 1.40E+000 I | | 2.00E-001 I | | y | 1.4E+003 N | 7.3E+002 N | 1.9E+003 N | 2.9E+006 N | 1.1E+005 N | 3.2E-001 | 6.5E+000 N |
| 2-METHYL-5-NITROANILINE | 90558 | | | 3.30E-002 H | | | 2.0E+000 C | 1.9E+001 C | 9.6E-002 C | 1.7E+002 C | 1.9E+001 C | | |
| METHYL PARATHION | 298000 | 2.50E-004 I | | | | | 9.1E+000 N | 9.1E+001 N | 3.4E+001 N | 5.1E+002 N | 2.0E+001 N | 4.3E-003 | 8.5E-002 N |
| 2-METHYLPHENOL | 95487 | 6.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.8E+003 N | | |
| 3-METHYLPHENOL | 106394 | 6.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.8E+003 N | | |
| 4-METHYLPHENOL | 106445 | 6.00E-003 H | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.8E+002 N | | |
| METHYLSTYRENE MIX | 25013154 | 6.00E-003 A | | 1.00E-002 A | | y | 5.5E+001 N | 3.7E+001 N | 8.1E+000 N | 1.2E+004 N | 4.7E+002 N | 5.1E-002 | 1.0E+000 N |
| ALPHA-METHYLSTYRENE | 98839 | 7.00E-002 A | | | | | 4.3E+002 N | 2.6E+002 N | 9.5E+001 N | 1.4E+005 N | 5.5E+003 N | 4.0E-001 | 7.8E+000 N |
| METHYL TERT-BUTYL ETHER | 1634044 | | | 8.67E-001 I | | y | 6.3E+003 N | 3.1E+003 N | | | | 1.4E+000 | 2.8E+001 N |
| METOLACHLOR (DUAL) | 61218462 | 1.50E-001 I | | | | | 5.5E+003 N | 5.5E+002 N | 2.0E+002 N | 3.1E+005 N | 1.2E+004 N | | |
| MIREX | 2385855 | 2.00E-004 I | | | | | 7.3E+000 N | 7.3E+001 N | 2.7E+001 N | 4.1E+002 N | 1.6E+001 N | | |
| MOLYBDENUM | 7439967 | 8E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.8E+002 N | | |
| MONOCHLORAMINE | 10599803 | 1E-001 I | | 1.00E-001 H | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | | |
| NALED | 900785 | 2E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 4.1E+003 N | 1.6E+002 N | | |
| NICKEL REFINERY DUST | | | | 8.4E-001 I | | | 7.5E+003 C | | | | | | |
| NICKEL | 7440020 | 2.00E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | | |
| NITRATE | 14797658 | 1.60E+000 I | | | | | 5.8E+004 N | 5.8E+003 N | 2.2E+003 N | 3.3E+006 N | 1.3E+005 N | | |
| NITRIC OXIDE | 10102439 | 1.00E-001 W | | | | | 6.1E+002 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | | |
| NITRITE | 14797850 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | | |
| 2-NITROANILINE | 88744 | | 5.70E-005 H | | | | 2.1E+001 N | | | | | | |
| NITROBENZENE | 98963 | 6.00E-004 I | | 8.00E-004 A | | y | 3.5E+000 N | 2.2E+000 N | 6.8E+001 N | 1.0E+003 N | 3.8E+001 N | 1.2E-003 | 2.3E-002 N |
| NITROFURANTOIN | 87209 | 7.00E-002 H | | | | | 2.6E+003 N | 2.6E+002 N | 9.5E+001 N | 1.4E+005 N | 5.5E+003 N | | |
| NITROFURAZONE | 88670 | | 1.50E+000 H | | | | 4.5E-002 C | 4.2E-003 C | 2.1E-003 C | 3.8E+000 C | 4.3E-001 C | | |
| NITROGEN DIOXIDE | 10102440 | 1.00E+000 W | | | | y | 6.1E+003 N | 3.7E+003 N | 1.4E+003 N | 2.0E+006 N | 7.8E+004 N | | |
| NITROGLYCERIN | 55630 | | 1.4E-002 E | | | | 4.8E+000 C | 4.5E-001 C | 2.3E-001 C | 4.1E+002 C | 4.6E+001 C | | |
| 4-NITROPHENOL | 100027 | 8.00E-003 E | | | | | 2.9E+002 N | 2.9E+001 N | 1.1E+001 N | 1.6E+004 N | 6.3E+002 N | 8.7E-002 | 1.7E+000 N |
| 2-NITROPROPANE | 70469 | | 5.70E-003 I | 9.40E-000 H | y | | 1.3E-003 C | 6.7E-004 C | | | | 3.2E-007 | 8.4E-006 C |
| N-NITROSO-DI-N-BUTYLAMINE | 924163 | 5.40E+000 I | | 5.60E+000 I | y | | 1.9E-003 C | 1.1E-003 C | 5.8E-004 C | 1.1E+000 C | 1.2E-001 C | 1.4E-006 | 2.7E-005 C |
| N-NITROSOETHANOLAMINE | 1116547 | 2.80E+000 I | | | | | 2.4E-002 C | 2.2E-003 C | 1.1E-003 C | 2.0E+000 C | 2.3E-001 C | | |
| N-NITROSOETHYLAMINE | 58185 | 1.50E+002 I | | 1.50E+002 I | | | 4.5E-004 C | 4.2E-005 C | 2.1E-005 C | 3.8E-002 C | 4.3E-003 C | 1.1E-007 | 2.3E-008 C |
| N-NITROSOIMETHYLAMINE | 82769 | 5.10E+001 I | | 6.10E+001 I | | | 1.3E-003 C | 1.2E-004 C | 6.2E-005 C | 1.1E-001 C | 1.3E-002 C | 2.8E-007 | 5.7E-006 C |
| N-NITROSOIPHENYLAMINE | 88308 | 4.90E-003 I | | | | | 1.4E-001 C | 1.3E+000 C | 6.4E-001 C | 1.2E+003 C | 1.3E-002 C | 3.8E-002 | 7.6E-001 C |
| N-NITROSOPIROPYLAMINE | 621847 | 7.00E+000 I | | | | | 9.6E-003 C | 8.9E-004 C | 4.5E-004 C | 8.2E-001 C | 9.1E-002 C | 2.4E-006 | 4.7E-005 C |
| N-NITROSO-N-ETHYLUREA | 759739 | 1.40E+002 H | | | | | 4.8E-004 C | 4.5E-005 C | 2.3E-005 C | 4.1E-002 C | 4.6E-003 C | | |
| N-NITROSO-N-METHYLETHYLAMINE | 10505968 | 2.20E+001 I | | | | | 3.0E-003 C | 2.8E-004 C | 1.4E-004 C | 2.6E-001 C | 2.9E-002 C | | |
| N-NITROPYRROLIDINE | 930652 | | 2.10E+000 I | 2.10E+000 I | | | 3.2E-002 C | 3.0E-003 C | 1.5E-003 C | 2.7E+000 C | 3.0E-001 C | | |
| M-NITROTOLUENE | 90061 | 2.00E-002 E | | | | y | 1.2E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | | |
| O-NITROTOLUENE | 88722 | 1.00E-002 H | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| P-NITROTOLUENE | 99980 | 1.00E-002 H | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| NUSTAR | 85506199 | 7.00E-004 I | | | | | 2.6E+001 N | 2.6E+000 N | 9.5E+001 N | 1.4E+003 N | 5.5E+001 N | | |
| ORYZALIN | 19044883 | 6.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | | |
| OXADIAZON | 19000309 | 8.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.8E+002 N | | |
| OXAMYL | 23135220 | 2.50E-002 I | | | | | 9.1E+002 N | 9.1E+001 N | 3.4E+001 N | 5.1E+004 N | 2.0E+003 N | 1.9E-001 | 3.8E+000 N |
| OXYFLUORFEN | 42874033 | 3.00E-003 I | | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 6.1E+003 N | 2.3E+002 N | | |

| Sources I = IRIS H = HEAST A + HEAST Alternate W = Withdrawn from IRIS or HEAST E = EPA-NCEA provisional value O = other | | | | | | | Basic C = Carcinogenic effects N = Noncarcinogenic effects I = RBC at HI of 0.1 < RBC-C Risk-based concentrations | | | | | Region III SSIs Soil for groundwater migration | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-----|--|-------------------------------------|---------------|-----------------------------|----------------------|---|-----------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg |
| PARAQUAT DICHLORIDE | 1804025 | 4.50E-003 I | | | | | 1.6E+002 N | 1.6E+001 N | 6.1E+000 N | 9.2E+003 N | 3.5E+002 N | | |
| PARATHION | 50382 | 8.00E-003 H | | | | | 2.2E+002 N | 2.2E+001 N | 8.1E+000 N | 1.2E+004 N | 4.7E+002 N | 5.0E-001 | 1.0E+001 N |
| PENTACHLOROBENZENE | 608935 | 8.00E-004 I | | | | | 2.9E+001 N | 2.9E+000 N | 1.1E+000 N | 1.6E+003 N | 6.3E+001 N | 1.0E+000 | 2.0E+001 N |
| PENTACHLORONITROBENZENE | 82868 | 3.00E-003 I | 2.80E-001 H | | | | 2.6E-001 C | 2.4E-002 C | 1.2E-002 C | 2.2E+001 C | 2.5E+000 C | 4.1E-003 | 8.2E-002 C |
| PENTACHLOROPHENOL | 87865 | 3.00E-002 I | 1.20E-001 I | | | | 5.6E-001 C | 5.2E-002 C | 2.6E-002 C | 4.8E+001 C | 5.3E+000 C | | |
| PERMETHRIN | 52645531 | 6.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | 1.2E+002 | 2.4E+003 N |
| PHENOL | 108852 | 8.00E-001 I | | | | | 2.2E+004 N | 2.2E+003 N | 8.1E+000 N | 1.2E+004 N | 4.7E+004 N | 8.7E+000 | 1.3E+002 N |
| M-PHENYLEDIAMINE | 108452 | 8.00E-003 I | | | | | 2.2E+002 N | 2.2E+001 N | 8.1E+000 N | 1.2E+004 N | 4.7E+002 N | 4.8E-002 | 9.8E-001 N |
| O-PHENYLEDIAMINE | 95545 | | 4.70E-002 H | | | | 1.4E+000 C | 1.3E-001 C | 6.7E-002 C | 1.2E+002 C | 1.4E+001 C | | |
| P-PHENYLEDIAMINE | 108503 | 1.80E-001 H | | | | | 6.9E+003 N | 6.9E+002 N | 2.6E+002 N | 3.9E+005 N | 1.5E+004 N | | |
| 2-PHENYLPHENOL | 90437 | | 1.90E-003 H | | | | 3.5E+001 C | 3.3E+000 C | 1.7E+000 C | 3.0E+003 C | 3.4E+002 C | | |
| PHOSPHINE | 7803812 | 3.00E-004 I | | 8.80E-005 I | | | 1.1E+001 N | 3.1E+001 N | 4.1E+001 N | 6.1E+002 N | 2.3E+001 N | | |
| PHOSPHORIC ACID | 7084382 | | 2.90E-003 I | | | | 1.1E+001 N | | | | | | |
| PHOSPHORUS (WHITE) | 7723140 | 2.00E-005 I | | | | | 7.3E-001 N | 7.3E-002 N | 2.7E-002 N | 4.1E+001 N | 1.8E+000 N | | |
| P-PHTHALIC ACID | 100210 | 1.00E+000 H | | | | | 3.7E+004 N | 3.7E+003 N | 1.4E+003 N | 2.0E+006 N | 7.8E+004 N | | |
| PHTHALIC ANHYDRIDE | 85449 | 2.00E-000 I | | 3.43E-002 H | | | 7.3E+004 N | 1.3E+002 N | 2.7E+003 N | 4.1E+006 N | 1.8E+005 N | 2.6E+001 | 5.2E+002 N |
| POLYBROMINATED BIPHENYLS | | 7.00E-006 H | 8.90E+000 H | | | | 7.5E-003 C | 7.0E-004 C | 3.5E-004 C | 6.4E-001 C | 7.2E-002 C I | | |
| POLYCHLORINATED BIPHENYLS | 1336363 | | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 2.9E+000 C | 3.2E-001 C | 2.1E-002 | 4.1E-001 C |
| AROCLOR-1016 | 12674112 | 7.00E-005 I | 7.00E-002 I | | 7.00E-002 I | | 9.6E-001 C I | 8.9E-002 C I | 4.5E-002 C I | 8.2E+001 C I | 5.5E+000 N | 2.1E-001 | 4.2E+000 C |
| AROCLOR-1221 | 11104282 | | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 2.9E+000 C | 3.2E-001 C | | |
| AROCLOR-1232 | 11141165 | | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 2.9E+000 C | 3.2E-001 C | | |
| AROCLOR-1242 | 53469219 | 2.00E+000 I | | 2.00E+000 I | | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 2.8E+000 C | 3.2E-001 C | | |
| AROCLOR-1248 | 12672298 | | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 2.9E+000 C | 3.2E-001 C | | |
| AROCLOR-1254 | 11097691 | 2.00E-006 I | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 2.9E+000 C | 3.2E-001 C I | 5.4E-002 | 1.1E+000 C |
| AROCLOR-1260 | 11096826 | | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 2.8E+000 C | 3.2E-001 C | | |
| POLYCHLORINATED TERPHENYLS | 6178838 | | 4.50E+000 E | | | | 1.5E-002 C | 1.4E-003 C | 7.0E-004 C | 1.3E+000 C | 1.4E-001 C | | |
| POLYNUCLEAR AROMATIC HYDROCARBONS: | | | | | | | | | | | | | |
| ACENAPHTHENE | 63329 | 8.00E-002 I | | | | y | 3.7E+002 N | 2.2E+002 N | 8.1E+001 N | 1.2E+005 N | 4.7E+003 N | 5.2E+000 | 1.0E+002 N |
| ANTHRACENE | 120127 | 3.00E-001 I | | | | y | 1.8E+003 N | 1.1E+003 N | 4.1E+002 N | 6.1E+005 N | 2.3E+004 N | 2.3E+001 | 4.7E+002 N |
| BENZAIANTHRAENE | 66553 | | 7.30E-001 E | | | y | 9.2E-002 C | 8.6E-003 C | 4.3E-003 C | 7.8E+000 C | 8.7E+001 C | 7.3E-002 | 1.5E+000 C |
| BENZO(B)FLUORANTHENE | 205992 | | 7.30E-001 E | | | | 9.2E-002 C | 8.6E-003 C | 4.3E-003 C | 7.8E+000 C | 8.7E+001 C | 2.3E-001 | 4.5E+000 C |
| BENZO(K)FLUORANTHENE | 207089 | | 7.30E-002 E | | | | 9.2E-001 C | 8.6E-002 C | 4.3E-002 C | 7.8E+001 C | 8.7E+000 C | 2.3E+000 | 4.5E+001 C |
| BENZO(A)PYRENE | 50328 | 7.30E+000 I | | 3.10E+000 E | | | 9.2E-003 C | 2.0E-003 C | 4.3E-004 C | 7.8E-001 C | 8.7E-002 C | 1.9E-002 | 3.7E-001 C |
| CARBAZOLE | 86748 | | 2.00E-002 H | | | | 3.3E+000 C | 3.1E-001 C | 1.6E-001 C | 2.9E+002 C | 3.2E+001 C | 2.3E-002 | 4.7E-001 C |
| CHRYSENE | 210019 | | 7.30E-003 E | | | | 9.2E+000 C | 8.6E-001 C | 4.3E-001 C | 7.8E+002 C | 8.7E+001 C | 7.3E+000 | 1.5E+002 C |
| DIBENZAIANTHRAENE | 53703 | | 7.30E+000 E | | | | 9.2E-003 C | 8.6E-004 C | 4.3E-004 C | 7.8E-001 C | 8.7E-002 C | 7.0E-002 | 1.4E+000 C |
| DIBENZOFURAN | 132649 | 4.00E-003 E | | | | y | 2.4E+001 N | 1.5E+001 N | 5.4E+000 N | 6.2E+003 N | 3.1E+002 N | 3.8E-001 | 7.7E+000 N |
| FLUORANTHENE | 209440 | 4.00E-002 I | | | | y | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 6.2E+004 N | 3.1E+003 N | 3.1E+002 | 6.3E+003 N |
| FLUORENE | 86737 | 4.00E-002 I | | | | y | 2.4E+002 N | 1.5E+002 N | 5.4E+001 N | 6.2E+004 N | 3.1E+003 N | 6.8E+000 | 1.4E+002 N |
| INDENO[1,2,3-C]PYRENE | 183395 | | 7.30E-001 E | | | | 9.2E-002 C | 8.6E-003 C | 4.3E-003 C | 7.8E+000 C | 8.7E-001 C | 6.4E-001 | 1.3E+001 C |
| 2-METHYLNAPHTHALENE | 81878 | 2.00E-002 E | | | | y | 1.2E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 1.1E+000 | 2.2E+001 N |
| NAPHTHALENE | 81203 | 2.00E-002 I | | 9.00E-004 I | | y | 6.5E+000 N | 3.3E+000 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 7.7E-003 | 1.5E+001 N |
| PYRENE | 129000 | 3.00E-002 I | | | | y | 1.8E+002 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | 3.4E+001 | 6.8E+002 N |
| PROMETON | 1610180 | 1.50E-002 I | | | | | 5.5E+002 N | 6.5E+001 N | 2.0E+001 N | 3.1E+004 N | 1.2E+003 N | | |
| PROMETRYN | 7207198 | 4.00E-003 I | | | | | 1.5E+002 N | 1.5E+001 N | 5.4E+000 N | 8.2E+003 N | 3.1E+002 N | | |

| Source: I = IRIS H = HEAST A = HEAST Alternate W = Withdrawn from IRIS or HEAST E = EPA-NCEA provisional value O = other | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects I = RBC at HI of 0.1 < RBC < Risk-based concentrations | | | | | Region III SSI's Soil, for groundwater migration | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-----|---|-------------------------------------|---------------|-----------------------------|----------------------|---|-----------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDI mg/kg/d | CSFI 1/mg/kg/d | VOC | Tap water ug/L | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg |
| PROPACHLOR | 1918187 | 1.30E-002 I | | | | | 4.7E+002 N | 4.7E+001 N | 1.6E+001 N | 2.7E+004 N | 1.0E+003 N | | |
| PROPANIL | 709988 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.9E+002 N | | |
| PROPARGITE | 2312358 | 2.00E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | | |
| N-PROPYLBENZENE | | 1.00E-002 E | | | | | 8.1E+001 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| PROPYLENE GLYCOL | 57556 | 2.00E+001 H | | | | | 7.3E+005 N | 7.3E+004 N | 2.7E+004 N | 4.1E+007 N | 1.6E+006 N | | |
| PROPYLENE GLYCOL, MONOETHYL ETHER | 52126538 | 7.00E-001 H | | | | | 2.6E+004 N | 2.6E+003 N | 9.5E+002 N | 1.4E+006 N | 5.5E+004 N | | |
| PROPYLENE GLYCOL, MONOMETHYL ETHER | 107982 | 7.00E-001 H | | 6.70E-001 I | | | 2.8E+004 N | 2.1E+003 N | 9.5E+002 N | 1.4E+006 N | 5.5E+004 N | | |
| PURSUIT | 61335776 | 2.60E-001 I | | | | | 9.1E+003 N | 9.1E+002 N | 3.4E+002 N | 5.1E+005 N | 2.0E+004 N | | |
| PYRIDINE | 110861 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 2.0E+003 N | 7.8E+001 N | | |
| QUINOLINE | 91226 | | 1.20E+001 H | | | | 5.6E-003 C | 5.2E-004 C | 2.6E-004 C | 4.8E-001 C | 5.3E-002 C | | |
| RDX | 121824 | 3.00E-003 I | 1.10E-001 I | | | | 6.1E-001 C | 5.7E-002 C | 2.9E-002 C | 5.2E-001 C | 5.8E+000 C | | |
| RESMETHRIN | 10453669 | 3.00E-002 I | | | | | 1.1E-003 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | | |
| RONNEL | 2098493 | 8.00E-002 H | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.8E+003 N | | |
| ROTENONE | 13794 | 4.00E-003 I | | | | | 1.5E+002 N | 1.5E+001 N | 5.4E+000 N | 8.2E+003 N | 3.1E+002 N | | |
| SELENIUS ACID | 7783008 | 8.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.8E+002 N | | |
| SELENIUM | 7782492 | 8.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.8E+002 N | | |
| SILVER | 7440224 | 8.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.8E+002 N | 1.6E+000 | 3.1E+001 N |
| SIMAZINE | 122349 | 8.00E-003 I | 1.20E-001 H | | | | 5.6E-001 C | 5.2E-002 C | 2.6E-002 C | 4.8E-001 C | 5.3E+000 C | 1.7E-004 | 3.3E-003 C |
| SODIUM AZIDE | 20628226 | 4.00E-003 I | | | | | 1.6E+002 N | 1.6E+001 N | 5.4E+000 N | 8.2E+003 N | 3.1E+002 N | | |
| SODIUM DIETHYLDITHIOCARBAMATE | 148185 | 9.00E-002 I | 2.70E-001 H | | | | 2.5E-001 C | 2.3E-002 C | 1.2E-002 C | 2.1E+001 C | 2.4E+000 C | | |
| STRONTIUM, STABLE | 7440246 | 8.00E-001 I | | | | | 2.2E+004 N | 2.2E+003 N | 8.1E+002 N | 1.2E+008 N | 4.7E+004 N | 7.7E+002 | 1.5E+004 N |
| STRYCHNINE | 67249 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 6.1E+002 N | 2.3E+001 N | 8.3E-003 | 1.7E-001 N |
| STYRENE | 100425 | 2.00E-001 I | | 2.86E-001 I | | | 1.6E+003 N | 1.6E+003 N | 2.7E+002 N | 4.1E+005 N | 1.6E+004 N | 2.9E+000 | 5.7E+001 N |
| 2,3,7,8-TETRACHLORODIBENZODIOXIN | 1746016 | | 1.50E+006 H | 1.50E+005 H | | | 4.5E-007 C | 4.2E-006 C | 2.1E-006 C | 3.8E-005 C | 4.3E-006 C | 4.3E-007 | 8.6E-008 C |
| 1,2,4,5-TETRACHLOROBENZENE | 95943 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 6.1E+002 N | 2.3E+001 N | 3.3E-002 | 6.6E-001 N |
| 1,1,1,2-TETRACHLOROETHANE | 630208 | 3.00E-002 I | 2.80E-002 I | | 2.80E-002 I | y | 4.1E-001 C | 2.4E-001 C | 1.2E-001 C | 2.2E+002 C | 2.5E+001 C | 2.0E-004 | 4.0E-003 C |
| 1,1,2,2-TETRACHLOROETHANE | 78345 | 8.00E-002 E | 2.00E-001 I | | 2.00E-001 I | y | 5.3E-002 C | 3.1E-002 C | 1.6E-002 C | 2.9E+001 C | 3.2E+000 C | 3.4E-005 | 6.8E-004 C |
| TETRACHLOROETHENE | 127184 | 1.00E-002 I | 5.20E-002 E | 1.4E-001 E | 2.00E-003 E | y | 1.1E+000 C | 3.1E+000 C | 6.1E-002 C | 1.1E+002 C | 1.2E+001 C | 2.4E-003 | 4.8E-002 C |
| 2,3,4,6-TETRACHLOROPHENOL | 66902 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | | |
| P,A,A-A-TETRACHLOROTOLUENE | 6216261 | | 2.00E+001 H | | | | 3.3E-003 C | 3.1E-004 C | 1.6E-004 C | 2.9E-001 C | 3.2E-002 C | | |
| 1,1,1,2-TETRAFLUOROETHANE | 811972 | | 2.29E+001 I | | | | 1.7E+006 N | 8.4E+004 N | | | | | |
| ~TETRAHYDROFURAN | 1000990 | 2.00E-001 E | 7.8E-003 E | 8.6E-002 E | 8.6E-003 E | | 8.8E+000 C | 9.2E-001 C | 4.2E-001 C | 7.5E+002 C | 8.4E+001 C | | |
| TETRYL | 478458 | 1.00E-002 H | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| THALLIC OXIDE | 1314326 | 7.00E-005 W | | | | | 2.6E+000 N | 2.6E+001 N | 9.5E-002 N | 1.4E+002 N | 5.5E+000 N | | |
| THALLIUM | 7440280 | 7.00E-006 O | | | | | 2.6E+000 N | 2.6E+001 N | 9.5E-002 N | 1.4E+002 N | 5.5E+000 N | 1.6E-001 | 3.6E+000 N |
| THALLIUM ACETATE | 553688 | 9.00E-005 I | | | | | 3.3E+000 N | 3.3E+001 N | 1.2E-001 N | 1.8E+002 N | 7.0E+000 N | | |
| THALLIUM CARBONATE | 6533739 | 8.00E-006 I | | | | | 2.9E+000 N | 2.9E+001 N | 1.1E-001 N | 1.6E+002 N | 6.3E+000 N | | |
| THALLIUM CHLORIDE | 7791120 | 8.00E-005 I | | | | | 2.9E+000 N | 2.9E+001 N | 1.1E-001 N | 1.6E+002 N | 6.3E+000 N | | |
| THALLIUM NITRATE | 10102451 | 9.00E-005 I | | | | | 3.3E+000 N | 3.3E+001 N | 1.2E-001 N | 1.6E+002 N | 7.0E+000 N | | |
| THALLIUM SULFATE (2:1) | 7446186 | 8.00E-005 I | | | | | 2.9E+000 N | 2.9E+001 N | 1.1E-001 N | 1.6E+002 N | 6.3E+000 N | | |
| THIOPENCARB | 28249776 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | | |
| TIN | 7440315 | 8.00E-001 H | | | | | 2.2E+004 N | 2.2E+003 N | 8.1E+002 N | 1.2E+006 N | 4.7E+004 N | | |

| Source I = IRIS H = HEAST A = HEAST Alternate W = Withdrawn from IRIS or HEAST E = EPA-NCEA provisional value O = other | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects I = RBC at HI of 0.1 < RBC-C Risk-based concentrations | | | | | Region III SSLs Soil for groundwater migration | |
|--|----------|-----------------|-------------------|-----------------|-------------------|-------------|---|-------------------------------------|---------------|-----------------------------|----------------------|---|---------------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDI mg/kg/d | CSFI 1/mg/kg/d | VOC | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg |
| TITANIUM | 7440326 | 4.00E+000 E | 8.00E-003 E | | | | 1.5E+005 N | 3.1E+001 N | 5.4E+003 N | 8.2E+006 N | 3.1E+005 N | | |
| TITANIUM DIOXIDE | 13463677 | 4.00E+000 E | 8.00E-003 E | | | | 1.5E+006 N | 3.1E+001 N | 5.4E+003 N | 8.2E+006 N | 3.1E+005 N | | |
| TOLUENE | 108883 | 2.00E-001 I | | 1.14E-001 I | | Y | 7.5E+002 N | 4.2E+002 N | 2.7E+002 N | 4.1E+005 N | 1.6E+004 N | 2.0E-001 C | 4.4E-001 8.8E+000 N |
| TOLUENE-2,4-DIAMINE | 95807 | | 3.20E+000 H | | | | 2.1E-002 C | 2.0E-003 C | 9.9E-004 C | 1.8E+000 C | | | |
| TOLUENE-2,5-DIAMINE | 95705 | 6.00E-001 H | | | | | 2.2E+004 N | 2.2E+003 N | 9.1E+002 N | 1.2E+006 N | 4.7E+004 N | | |
| TOLUENE-2,6-DIAMINE | 823406 | 2.00E-001 H | | | | | 7.3E+003 N | 7.3E+002 N | 2.7E+002 N | 4.1E+005 N | 1.6E+004 N | | |
| P-TOLUIDINE | 108490 | | 1.90E-001 H | | | | 3.5E-001 C | 3.3E-002 C | 1.7E-002 C | 3.0E+001 C | 3.4E+000 C | 3.0E-004 | 5.9E-003 C |
| TOXAPHENE | 8001352 | | | 1.10E+000 I | | 1.10E+000 I | 6.1E-002 C | 6.7E-003 C | 2.9E-003 C | 5.2E+000 C | 5.8E-001 C | 3.1E-002 | 6.3E-001 C |
| 1,2,4-TRIBROMOBENZENE | 616543 | 6.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.9E+002 N | | |
| TRIBUTYLtin OXIDE | 643359 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 6.1E+002 N | 2.3E+001 N | | |
| 2,4,6-TRICHLOROANILINE | 634935 | | 3.40E-002 H | | | | 2.0E+000 C | 1.8E-001 C | 9.9E-002 C | 1.7E+002 C | 1.9E+001 C | | |
| 1,2,4-TRICHLOROBENZENE | 120821 | 1.00E-002 I | | 5.70E-002 H | | Y | 1.9E+002 N | 2.1E+002 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | 3.8E-001 | 7.5E+000 N |
| 1,1,1-TRICHLOROETHANE | 71556 | 2.00E-002 E | | 2.86E-001 E | | Y | 5.4E+002 N | 1.0E+003 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | 5.1E-001 | 1.0E+001 N |
| 1,1,2-TRICHLOROETHANE | 79005 | 4.00E-003 I | 5.70E-002 I | | 5.80E-002 I | Y | 1.9E-001 C | 1.1E-001 C | 5.5E-002 C | 1.0E+002 C | 1.1E+001 C | 3.9E-005 | 7.8E-004 C |
| TRICHLOROETHENE | 79018 | 6.00E-003 E | 1.10E-002 E | | 6.00E-003 E | Y | 1.6E+000 C | 1.0E+000 C | 2.8E+001 C | 5.2E+002 C | 5.8E+001 C | 7.7E-004 | 1.5E-002 C |
| TRICHLOROFLUOROMETHANE | 75694 | 3.00E-001 I | | 2.00E-001 A | | Y | 1.3E+003 N | 7.3E+002 N | 4.1E+002 N | 6.1E+005 N | 2.3E+004 N | 1.1E+000 | 2.3E+001 N |
| 2,4,5-TRICHLOROPHENOL | 95854 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 2.0E+005 N | 7.8E+003 N | | |
| 2,4,6-TRICHLOROPHENOL | 88002 | | 1.10E-002 I | | 1.00E-002 I | | 6.1E+000 C | 6.3E-001 C | 2.9E-001 C | 5.2E+002 C | 5.8E+001 C | | |
| 2,4,5-T | 83765 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 2.0E+004 N | 7.8E+002 N | 9.8E-002 | 2.0E+000 N |
| 2-(2,4,5-TRICHLOROPHOXY)PROPIONIC ACID | P3721 | 8.00E-003 I | | | | | 2.9E+002 N | 2.9E+001 N | 1.1E+001 N | 1.6E+004 N | 6.3E+002 N | 1.1E+000 | 2.1E+001 N |
| 1,1,2-TRICHLOROPROPANE | 588776 | 5.00E-003 I | | | | Y | 3.0E+001 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.8E+002 N | 1.2E-002 | 2.5E+001 N |
| 1,2,3-TRICHLOROPROPANE | 98184 | 6.00E-003 I | 7.00E+000 H | | | Y | 1.5E-003 C | 8.9E-004 C | 4.5E-004 C | 8.2E-001 C | 9.1E-002 C | 5.2E-007 | 1.0E-005 C |
| 1,2,3-TRICHLOROPROPENE | 98195 | 6.00E-003 H | | | | Y | 3.0E+001 N | 1.8E+001 N | 6.8E+000 N | 1.0E+004 N | 3.9E+002 N | 1.2E-002 | 2.5E-001 N |
| 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | 76131 | 3.00E-001 I | | 8.80E+000 H | | Y | 5.9E+004 N | 3.1E+004 N | 4.1E+004 N | 6.1E+007 N | 2.3E+006 N | 1.2E+002 | 2.3E+003 N |
| 1,2,4-TRIMETHYLBENZENE | 95630 | 5.00E-002 E | | 1.70E-003 E | | Y | 1.2E+001 N | 6.2E+000 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | | |
| 1,3,5-TRIMETHYLBENZENE | 108678 | 5.00E-002 E | | 1.70E-003 E | | Y | 1.2E+001 N | 6.2E+000 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | | |
| TRIMETHYL PHOSPHATE | 512581 | | 3.70E-002 H | | | | 1.8E+000 C | 1.7E-001 C | 8.5E-002 C | 1.5E+002 C | 1.7E+001 C | | |
| 1,3,5-TRINITROBENZENE | 99354 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 6.1E+004 N | 2.3E+003 N | | |
| 2,4,6-TRINITROTOLUENE | 118867 | 5.00E-004 I | 3.00E-002 I | | | | 2.2E+000 C | 2.1E-001 C | 1.1E-001 C | 1.9E+002 C | 2.1E+001 C | | |
| URANIUM (SOLUBLE SALTS) | | 3.00E-003 I | | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 6.1E+003 N | 2.3E+002 N | | |
| VANADIUM | 7440622 | 7.00E-003 H | | | | | 2.6E+002 N | 2.6E+001 N | 9.5E+000 N | 1.4E+004 N | 5.5E+002 N | 2.6E+002 | 5.1E+003 N |
| VANADIUM PENTOXIDE | 1314821 | 9.00E-003 I | | | | | 3.3E+002 N | 3.3E+001 N | 1.2E+001 N | 1.8E+004 N | 7.0E+002 N | | |
| VANADIUM SULFATE | 16785812 | 2.00E-002 H | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 4.1E+004 N | 1.6E+003 N | | |
| VINCLIZOLIN | 50471448 | 2.50E-002 I | | | | | 9.1E+002 N | 9.1E+001 N | 3.4E+001 N | 5.1E+004 N | 2.0E+003 N | | |
| VINYL ACETATE | 108054 | 1.00E+000 H | | 6.71E-002 I | | Y | 4.1E+002 N | 2.1E+002 N | 1.4E+003 N | 2.0E+006 N | 7.8E+004 N | 8.7E-002 | 1.7E+000 N |
| VINYL CHLORIDE | 75014 | | 1.90E+000 H | | 3.00E-001 H | Y | 1.9E+002 C | 2.1E+002 C | 1.7E+003 C | 3.0E+000 C | 3.4E+001 C | 7.9E-008 | 1.8E+004 C |
| WARFARIN | 81812 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E+001 N | 6.1E+002 N | 2.3E+001 N | 2.2E+002 | 4.4E+001 N |
| M-XYLENE | 108383 | 2.00E+000 H | | | | Y | 1.2E+004 N | 7.3E+003 N | 2.7E+003 N | 4.1E+006 N | 1.6E+005 N | 1.3E+001 | 2.5E+002 N |
| O-XYLENE | 95476 | 2.00E+000 H | | | | Y | 1.2E+004 N | 7.3E+003 N | 2.7E+003 N | 4.1E+006 N | 1.6E+005 N | 1.1E+001 | 2.3E+002 N |
| P-XYLENE | 108423 | | | | | Y | 1.2E+004 N | 7.3E+003 N | 2.7E+003 N | 4.1E+006 N | 1.6E+005 N | 8.5E+000 | 1.7E+002 N |
| XYLENES | 1330207 | 2.00E+000 I | | | | Y | 1.1E+004 N | 1.1E+003 N | 4.1E+002 N | 6.1E+005 N | 2.3E+004 N | 6.8E+002 | 1.4E+004 N |
| ZINC | 7440888 | 3.00E-001 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E+001 N | 6.1E+002 N | 2.3E+001 N | | |
| ZINC PHOSPHIDE | 1314847 | 3E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E+001 N | 6.1E+002 N | 2.3E+001 N | | |
| ZINEB | 12122677 | 6E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 1.0E+005 N | 3.9E+003 N | | |